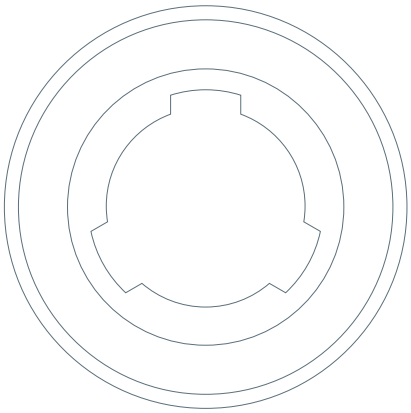
a perfect fit ™



CONELOG® IMPLANT SYSTEM
PROSTHETIC RESTORATIONS

camlog

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GENERAL
SYSTEM INFORMATION ABOUT THE CAMLOG® AND CONELOG® IMPLANT SYSTEM

THE CAMLOG® AND CONELOG® IMPLANT SYSTEM

The CONELOG® Implant System has been developed on the basis of many years of clinical and laboratory experience. It is a user-friendly, consistently prosthesis-oriented implant system.

All CAMLOG® and CONELOG® products are always manufactured with the most state-of-the-art technology. The CAMLOG® and CONELOG® Implant System is continuously being developed by the company's research and development team in collaboration with clinics, universities and dental technicians and therefore stays abreast of the latest technology.

The CAMLOG® Implant System is very well documented scientifically. Numerous studies based on various parameters, e. g. implant surface, time of implantation and/or implant loading, primary stability, connection design or type of superstructure, support this. The long-term results of the CAMLOG® Implant System are convincing.

IMPORTANT NOTE

The descriptions that follow are not adequate to permit immediate use of the CAMLOG® and CONELOG® Implant System. Instruction by a surgeon experienced in using the CAMLOG® and CONELOG® Implant System is strongly recommended. CAMLOG® and CONELOG® dental implants and abutments should only be used by dentists, physicians, surgeons and dental technicians who have been trained in using the system. CAMLOG regularly offers relevant courses and training sessions. Methodical errors made during the treatment can result in loss of the implant and significant loss of the peri-implant bone.

SYSTEM INTRODUCTION

GENERAL GUIDELINES FOR THE FABRICATION OF IMPLANT-SUPPORTED PROSTHETICS

Modern implant prosthetics is now an established component of dentistry. The expectations and demands of patients are steadily increasing. Therefore, the ultimate goal of modern implant-supported treatment concepts is for full esthetic, functional, phonetic, and psychosocial rehabilitation. This applies equally to replacements of lost single incisors associated with trauma and the complex rehabilitation of periodontally compromised remaining teeth or the treatment of an edentulous heavily atrophied maxilla and mandible.

Increasingly higher demands for quality and specialization require a multidisciplinary team approach to combine the members acquired knowledge and experience. Modern implant-supported restorations need a high level of attention to detail and clinical experience. This is true equally for the restorative dentist, the surgeon, the dental technician, and the dental office support staff such as the nurse, hygienist, and chair assistant. The CAMLOG team concept takes all of these demands into consideration. The sequence of treatment procedures is structured, and specific procedures are clearly assigned to specific team members once the joint planning phase is complete.

The implant-supported prosthetic restoration should be designed as simple and as safe as possible in regards to planning and fabrication. The required number of implants, as well as their length and diameter are determined based on the restoration planned later and the available bony implant site. The pre-implantation planning should be oriented exclusively to prosthetic needs (backward planning).

The patient is the focus of the implantological restoration. The patients needs and desires must play a part in the fabrication of the prosthetic restoration. This also requires taking into account anatomical relationships and conditions. Natural teeth are attached elastically by the periodontium to the alveolar bone. However, implants are rigidly anchored to the alveolar bone by the ankylotic connection to the bone substance. Mastication forces placed on implant-borne crown and bridge restorations are transferred directly to the bone. For this reason, the mastication forces should be transferred by a possible physiological process in the form of a suitable occlusion design thus supporting the long-term success of the integrated implants.

This can be achieved in the posterior occlusal area with a surface area of approx. 1 mm² that allows lateral freedom of movement of approx. 1 mm in habitual intercuspation. This makes it possible for the cusps to glide smoothly between the retrusive contact position (centric occlusion) and the maximum intercuspal position called «freedom in centric». In conjunction with a premolarized forming, overloads can be avoided. Extreme cusp formations should be avoided due to dentition that is too strong and vertical mastication forces affect the implant/antagonist axis preferably physiologically. Guidance functions of crown restorations on individual implants can lead to lateral force affects that are too strong and should be avoided. Appropriate planning should occur (e.g. wax-up) in advance.

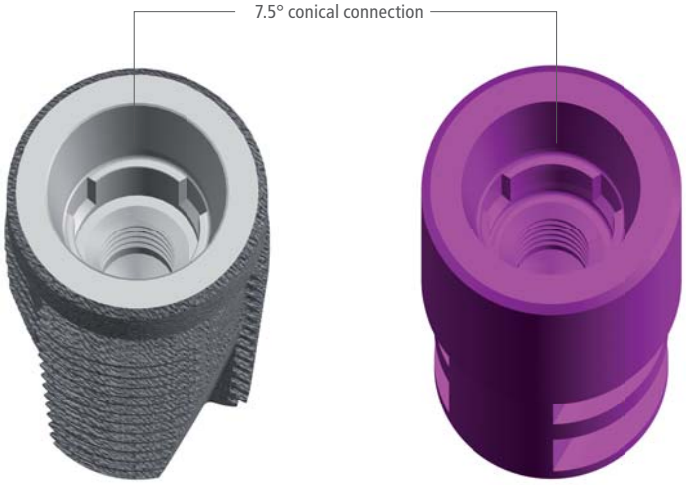
RECALL

Resilient supported full dentures with retention devices should be regularly checked in three-month intervals after insertion. When harmful movements of the prosthesis occur, they can be eliminated promptly by through appropriate measures (occlusion check, activation / replacement of the matrices, relining). Patients with inadequate oral hygiene are remotivated and instructed again as part of oral hygiene and denture care. For patients with good oral hygiene, the intervals between the functional and hygiene checks can be extended.

SYSTEM INTRODUCTION

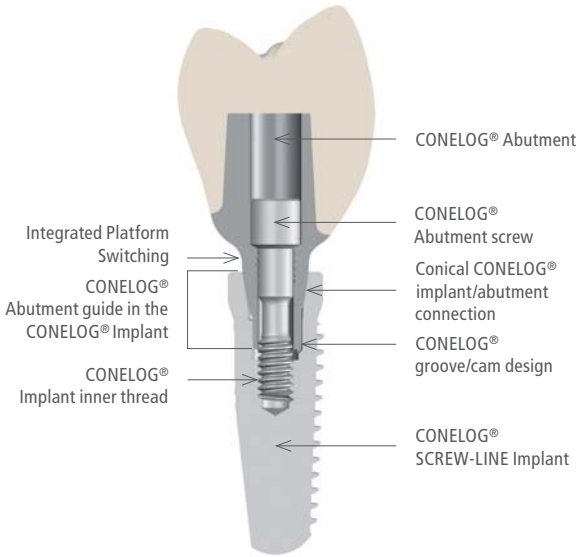
CONELOG®
IMPLANT/ABUTMENT CONNECTION

CONELOG® SCREW-LINE implants and CONELOG® lab analogs are equipped with a cone (7.5°) and three grooves in the inner configuration for positioning CONELOG® abutments. The CONELOG® abutments are apical with a cone and three cams, and lock into the conical connection and the three grooves of the CONELOG® implant/lab analog. The CONELOG® abutment does not cover the implant shoulder (integrated Platform Switching). A CONELOG® lab screw is used for fabrication of the restoration to set CONELOG® abutments in the CONELOG® lab analog. For definitive insertion, a CONELOG® abutment screw is used.

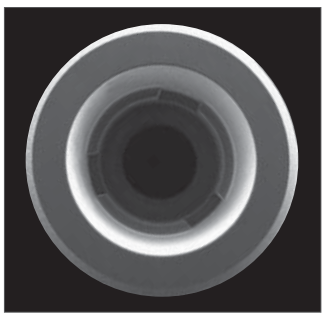


CONELOG®
SCREW-LINE Implant

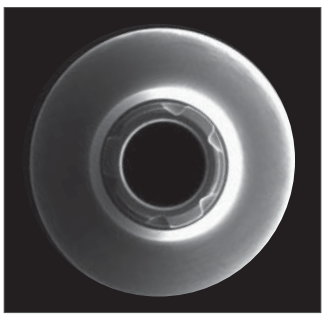
CONELOG®
Lab analog



Conical CONELOG® Implant/abutment connection



CONELOG® SCREW-LINE Implant



CONELOG® Abutment

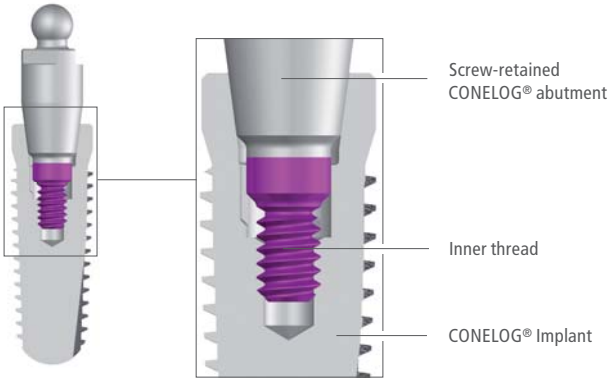
CONELOG® IMPLANT/BAR ABUTMENT/ BALL ABUTMENT/LOCATOR® ABUTMENT CONNECTION

Various CONELOG® abutments, CONELOG® bar, ball and Locator® abutments for anchoring of an implant-retained full denture with varying geometries are available for the CONELOG® Implant System. The abutments differ in the apical region with two different types of connection.

CONELOG® bar, ball and Locator® abutments have a thread in the apical region that engages the inner thread of the CONELOG® lab analog or CONELOG® implant. The abutments are screwed into the CONELOG® implant or lab analog with a defined torque using the corresponding drivers.

CONELOG® Bar abutment | CONELOG® Ball abutment | CONELOG® Locator® Abutment

Due to the design of the screw connection, the abutments do not have cams.



Example: CONELOG® ball abutment (Ø 4.3 mm) in a CONELOG® SCREW-LINE implant

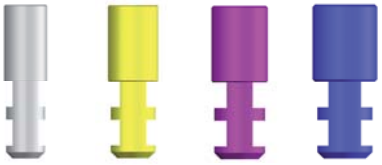
SYSTEM INTRODUCTION

CONELOG® PROSTHETIC COMPONENTS

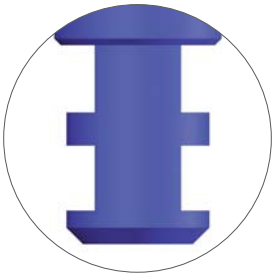
The prosthetic treatment of the CONELOG® SCREW-LINE implants is completed with single crowns, bridges or full dentures. Own CONELOG® prosthetic components such as CONELOG® impression posts, CONELOG® lab analogs and CONELOG® abutments are available for fabrication of the restoration.

IMPRESSION TAKING AND FABRICATION OF THE PLASTER MODEL

CONELOG® Impression posts
open and closed tray



CONELOG® Lab analogs,
Ø 3.3/3.8/4.3/5.0 mm



CONELOG® Lab analog with
two retention notches

PROSTHETIC RESTORATION

CONELOG®
Temporary abutment

CONELOG®
Esthomic® abutments

CONELOG®
Gold-plastic abutment

CONELOG®
Logfit® abutment

CONELOG® Vario SR abutment,
straight

CONELOG® Vario SR abutment,
20° angled

CONELOG® Vario SR abutment,
30° angled

CONELOG®
Universal abutment

CONELOG®
Telescope abutment

CONELOG®
Bar abutment

CONELOG®
Ball abutment

CONELOG®
Locator® abutment

IMPORTANT NOTE
Due to the conical inner configuration of the CONELOG® SCREW-LINE implants, they are only compatible with CONELOG® components!

CONELOG® Lab analog

CONELOG® Abutment

CONELOG® LAB SCREW

To protect the CONELOG® abutment screw when fabricating the prosthetic restoration, we recommend using a CONELOG® lab screw with the corresponding diameter.

CONELOG®
Screw design

ART. NO.	C4006.1601	C4006.2001
CONELOG® Lab screw, hex, brown anodized		
For implant Ø	3.3/3.8/4.3 mm,	5.0 mm,
	Thread M 1.6	Thread M 2.0

IMPORTANT NOTE
The CONELOG® lab screws must not be used in the patient!

SYSTEM INTRODUCTION

CONELOG® DISCONNECTOR FOR CONELOG® ABUTMENTS

CONELOG® abutments (not CONELOG® bar, ball and Locator® abutments) are removed from or pushed out of the CONELOG® implants and lab implants using the CONELOG® disconnector for CONELOG® abutments. First the CONELOG® abutment screw or CONELOG® lab screw is removed and the disconnector is screwed into the screw canal until the abutment releases from the internal taper of the CONELOG® implant or lab implant. If the abutment does not come loose, the torque wrench (locked setting) can be placed on the disconnector and the abutment can be loosened by turning clockwise.

ART. NO.	C5300.1601	C5300.2001
CONELOG® disconnector for CONELOG® abutments		
Implant Ø mm	3.3/3.8/4.3	5.0
Thread	M 1.6	M 2.0

Locked torque wrench

PRODUCTION PRECISION

The inner and outer geometry of the CONELOG® implants and abutments are rotary machined for the most part. The tolerances can therefore be keep very low. The result is excellent part precision without impacting the material structure. The CONELOG® implant/abutment connection ensures a very precise, stable and rotation-resistant connection to the CONELOG® prosthetic components.

COLOR-CODING

COLOR-CODING OF THE SURGICAL AND PROSTHETICAL CAMLOG® AND CONELOG® PRODUCTS

	COLOR	DIAMETER
	gray	3.3 mm
	yellow	3.8 mm
	red	4.3 mm
	blue	5.0 mm
	green	6.0 mm

IMPORTANT NOTE
No components of different diameters should be used together. The system components must not be modified.

PLANNING OF THE PROSTHETIC RESTORATION

INTRODUCTION

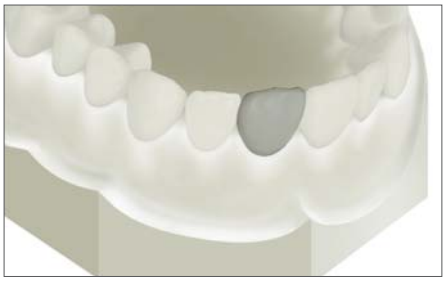
Modern implant prosthetics is planned by working back from the desired therapy goal; this is referred to as «backward planning». It applies particularly to pre-implantation augmentation procedures to restore sufficient bony structure to allow placement of implants in the optimal prosthetic position.

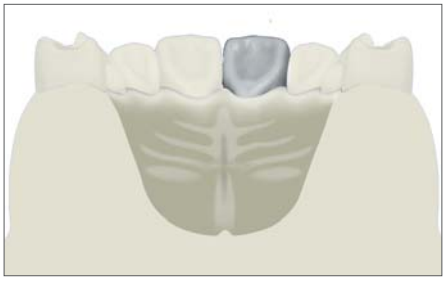
Function, phonetics, and hygienic potential require prosthetically oriented implant positioning and dimensioning, which the dental technician defines on the basis of the wax-up/set-up. The prosthetic design and the required implant position(s) and axial alignment(s) are planned by the dentist and dental technician working closely together. This requires both to be fully informed of the treatment options.

If implant positions (implants approximating the former tooth positions) cannot be implemented for a fixed denture for whatever reason – functional (implant loading, crown length), esthetic (soft tissue support) or hygienic – a removable denture must be planned.

DIMENSION CONTROL, WAX-UP/SET-UP

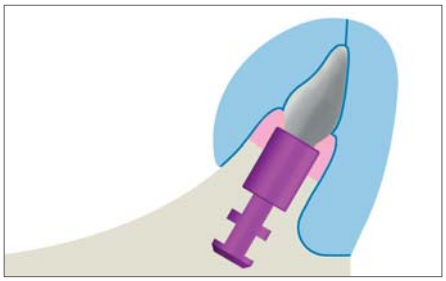
A silicone index is used to represent the space requirement for the planned restoration on the cast. The restoration is modeled directly without abutment in wax as a wax-up/set-up. The planned prosthetic result, the implant axis, the course of the gingiva, the alveolar ridge and the residual teeth are taken into account.

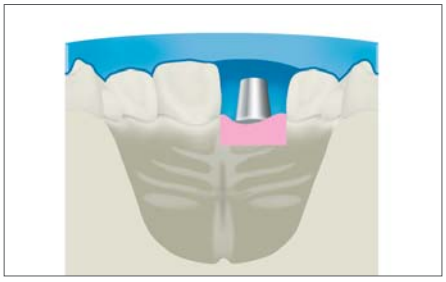


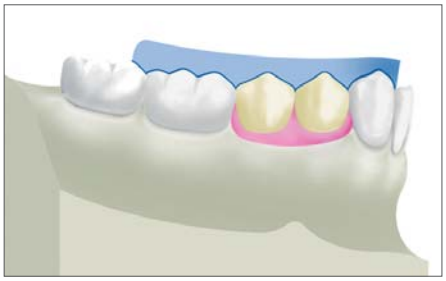


SILICONE INDEX

The silicone index is then fabricated over the wax-up/set-up. The index should embrace the tooth arch from oral to vestibular. After curing, the index is divided along the incisal or occlusal midline. After removing the wax-up/set-up, the corresponding silicone index half (buccal or palatinal/lingual half) shows the space requirement for the prosthetic restoration. After inserting the abutment into the cast, the necessary preparation for an optimal esthetic and function of the prosthetic reconstruction can be determined.







This process makes simple, fast dimension control for the prosthetic restoration options on CONELOG® abutments possible and can be used further in the subsequent work steps.

ARCH RELATIONS

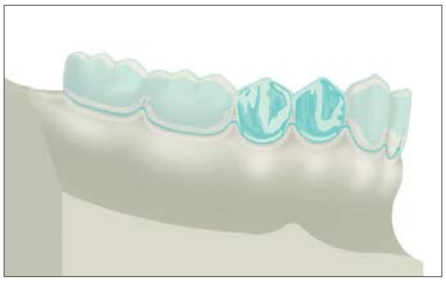
The arch relations has effects on the load direction and therefore on the axial alignment of the implants. This is particularly important with cross-bite situations. Crowns cannot be placed precisely over the implants in the presence of Angle Class II dentition because the soft tissues must be supported and the space for the tongue must not be reduced. A removable denture is indicated in this situation.

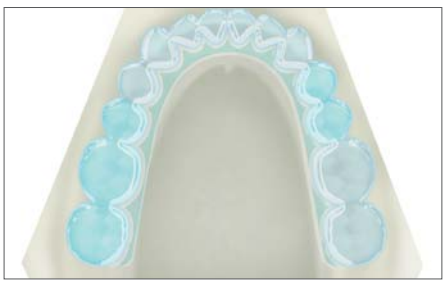
DIAGNOSTIC CASTS

The diagnostic casts must clearly show not only the occlusal surfaces but also the vestibular fold and retromolar areas. The diagnostic casts are mounted in an adjustable articulator with the aid of an arbitrary face bow and centric registration as in perioprosthetics. If the occlusal height requires correction, this must be done with a splint therapy or long-term provisional before the implant-supported prosthetic restoration begins.

PLANNING TEMPLATE

A planning template is fabricated to review the planned implant positions in the mouth. The template can be converted to a drilling template later. Markings can be integrated in the planning template as needed to check the template position when converting the template into a drilling template.





PLANNING OF THE PROSTHETIC RESTORATION

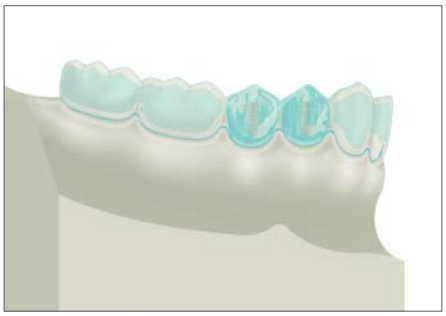
X-RAY/DRILLING TEMPLATE WITH CT-TUBES FOR CT PLANNING

CT-tubes for the CT planning are integrated at the ideal implant positions in the planning templates created from the wax-up/set-up and are used as reference positions in the X-ray image. The CT-tubes have two parts and the titanium alloy material does not cause any scattering of rays in the CT/DVT. The lower section is polymerized into the template. The upper section is pluggable. The entire CT-tube is used for the radiological diagnostics; the upper section can be removed for surgery. Depending on the software used for the evaluation, titanium CT-tubes or other radio-opaque positioning elements (e.g. steel, barium sulfate) are integrated for the CT/DVT-supported planning. Placing the CT-tubes directly on the mucosa makes it possible to determine density in the CT/DVT. The documentation included with these systems contains more information on this topic.

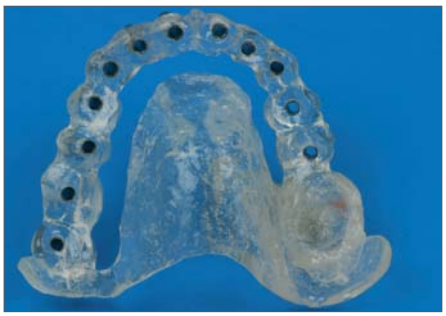
Example:
CT-tubes for CT planning
for pilot drill Ø 2.0 mm

Drill for placement
of CT-tubes

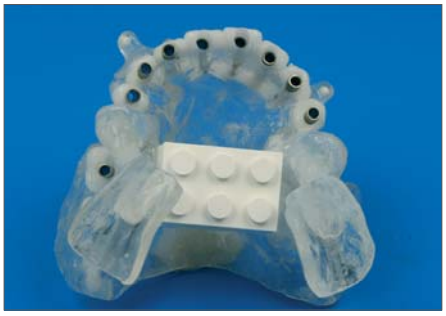
Planning template with CT-tubes for CT/DVT planning



Template without upper tube section for use as drilling template



X-ray template, outlined with tubes



X-ray template with radio-opaque teeth, pre-inserted tubes and reference element for computer-based implant planning

ABUTMENT SELECTION

In consideration of the previous prosthetic planning, abutments should be selected in collaboration with the dentist and dental technician. CONELOG® Esthomic® selection abutments are available for CONELOG® Esthomic® abutments.

The previously prepared silicone index is used to specifically select the suitable abutment on the cast. The following information when making the selection is important: implant axis, implant length, gingival height, groove position (important for angled CONELOG® Esthomic® abutments) and the vertical dimension of the implant to the occlusion level.

IMPLANT AXIS

With a straight abutment, it is possible to correct implant axes of up to approx. 10° in axial alignment. If larger axis corrections are required, angled CONELOG® Esthomic® abutments or the CONELOG® gold-plastic abutment for creating an individual mesostructure must be selected.

SELECTING THE GINGIVAL HEIGHT FOR CONELOG® ESTHOMIC® ABUTMENTS

As a selection criterion, the maximum mucosal thickness is the focus here. Because the final crown margin should lie vestibular 1.0–1.5 mm subgingivally, an CONELOG® Esthomic® abutment with appropriate gingival height must be selected. The crown margin can be prepared later for hygiene and esthetic reasons accordingly. To safely remove any remaining cement, the cement gap should not lie deeper than 1.5–2.0 mm subgingivally for cemented restorations.

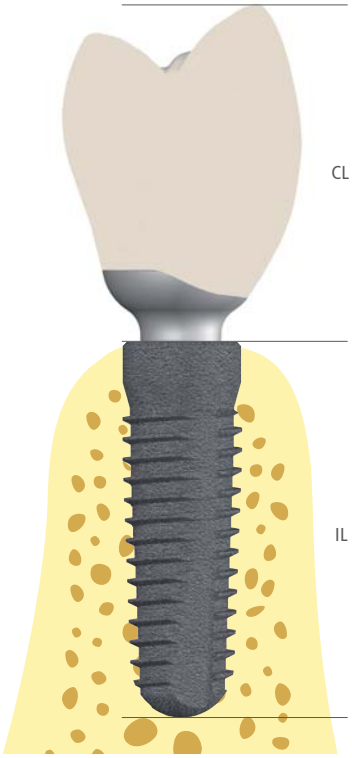
NARROW SPACES

If the space is limited, the CONELOG® Esthomic® abutment, Inset, is an appropriate solution. The distinctiveness of this abutment is that its maximum diameter is identical to the respective implant diameter.

ANCHORING OPTIONS

In consideration of the previous prosthetic planning, the anchoring option with CONELOG® bar, ball and Locator® abutments or with CONELOG® abutments for double crown restorations should be select in collaboration with the dentist and dental technician.

The previously prepared silicone index is used to select the suitable CONELOG® abutment on the cast. Implant axis, length, diameter and gingival height must be taken into account.



CL = Crown Length
IL = Implant Length

VERTICAL DIMENSION TO THE OCCLUSION LEVEL

Information from implantologists for the length of implants used plays an important role in the prosthetic planning respectively restoration. Loading of the implant-bone interface is a result of the leverage relation generated by osseointegration-related resistance to the prosthesis load arm (equivalent to the supracrestal implant length plus the length of the crown above the implant shoulder). If IL is smaller than CL, then the load must be reduced (e.g. through prosthetic splinting). The length ratio of single crown to implant should be max. CL 0.8 : IL 1.

PLANNING OF THE PROSTHETIC RESTORATION

APPLICATIONS FOR CONELOG® ABUTMENT TYPES

CONELOG® TEMPORARY ABUTMENT
Temporary restorations for single crown restorations in esthetically critical zones.

CONELOG® ESTHOMIC® ABUTMENTS (STRAIGHT/ANGLED)
Cementable single crown and bridge restorations in esthetically critical zones.

CONELOG® LOGFIT® ABUTMENT
Cementable single crown and bridge restorations

CONELOG® GOLD-PLASTIC ABUTMENTS
Cast-on technique, single crowns, individual implant pillars for cementable bridge restorations, telescopic crown technique.

CONELOG® TITANIUM BASE CAD/CAM
Restoration with individual and high-precision two-piece abutments made of zirconium oxide. Bonding base for individual implant-borne restorations such as mesostructures, as well as crown, bridge and double crown restorations.

CONELOG® UNIVERSAL ABUTMENT
Cementable single crown and bridge restorations, double crown restorations.

CONELOG® TELESCOPE ABUTMENT
Cementable single crown and bridge restorations, double crown restorations.

CONELOG® VARIO SR ABUTMENTS (STRAIGHT, 20° AND 30° ANGLED)
Occlusally screw-retained crown, bridge and bar restorations

IMPORTANT NOTE
Because of the conical CONELOG® implant abutment connection and the CONELOG® groove/cam design, CONELOG® prosthetic components are only compatible with CONELOG® implants or lab analogs!

APPLICATIONS FOR CONELOG® BAR, BALL AND LOCATOR® ABUTMENTS

CONELOG® BAR ABUTMENT
Anchoring of implant-supported full dentures for the edentulous maxilla in combination with 4 or more CONELOG® implants and in the edentulous mandible in combination with 2, 4 or more CONELOG® implants.

CONELOG® BALL ABUTMENT
Resilient anchoring of implant-supported full dentures for the edentulous maxilla and/or mandible in combination with 2 CONELOG® implants to secure a tangential rotation axis. Anchoring of implant-supported full dentures for the edentulous maxilla and/or mandible in combination with 4 CONELOG® implants.

CONELOG® LOCATOR® ABUTMENT
Resilient anchoring of implant-supported full dentures for the edentulous maxilla and mandible.

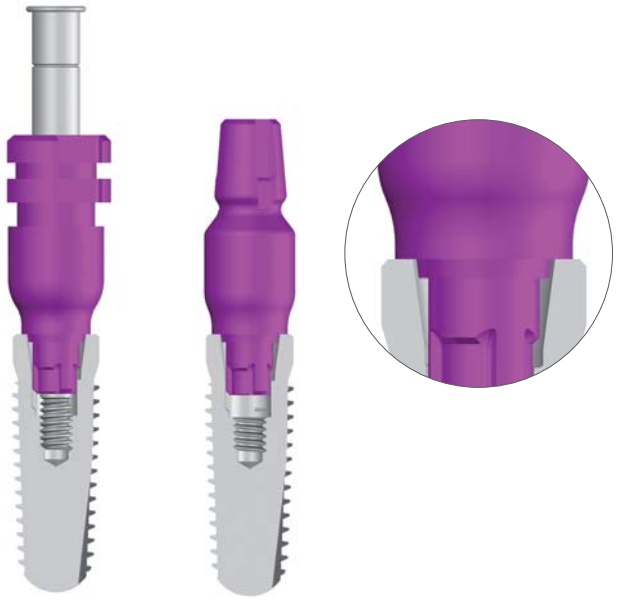
CONELOG®
IMPRESSION TAKING

IMPRESSION TAKING OF CONELOG® IMPLANTS

INTRODUCTION

The CONELOG® impression taking components provide a highly precise, rotation-resistant transfer system for both closed and open tray impression methods. The CONELOG® impression posts do not lock into the cone of the CONELOG® implants, but lie on the implant shoulder. A vertical offset is prevented when taking the impression. The antirotational mechanism is ensured by the CONELOG® groove/cam connection.

All system components are color-coded by implant diameter. You should make sure to apply only implants and impression components of the same diameter (by color-coding). No components of different diameters should be joined to one another. The system components must not be modified.



CONELOG® Impression posts, open and closed tray

IMPRESSION METHODS, OPEN AND CLOSED TRAY

The open or closed tray method may be selected for impression taking. If heavily divergent implant axes are present or combination with a functional impression-taking is desired, the open tray impression-taking method should be used.

IMPRESSION MATERIAL

Silicone or polyether materials can be used as impression-taking materials for the open and closed tray impression-taking methods.

NOTE
The impression-taking of CONELOG® SCREW-LINE implants is only possible with CONELOG® impression posts, open and/or closed tray.

CONELOG® IMPRESSION POSTS, OPEN TRAY

ART. NO.	C2121.3300	C2121.3800	C2121.4300	C2121.5000
CONELOG® Impression posts, open tray, incl. fixing screw				
Implant Ø mm	3.3	3.8	4.3	5.0
PH mm	10.0	10.0	10.0	10.0

PH: Prosthetic height

CONELOG® IMPRESSION POSTS, CLOSED TRAY

ART. NO.	C2110.3300	C2110.3800	C2110.4300	C2110.5000
CONELOG® Impression posts, closed tray, incl. impression cap, bite registration cap and fixing screw				
Implant Ø mm	3.3	3.8	4.3	5.0
PH mm	10.7	10.7	10.7	10.7

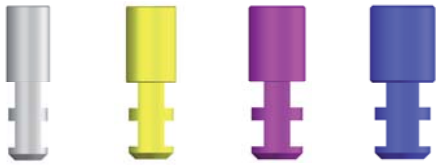
PH: Prosthetic height

SPARE IMPRESSION CAP

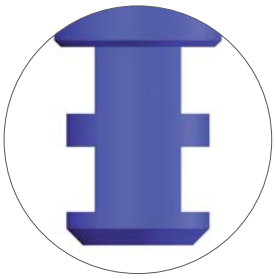
ART. NO.	J2111.3300	J2111.3800	J2111.4300	J2111.5000
Impression cap for impression posts, closed tray (5 units)				
Implant Ø mm	3.3	3.8	4.3	5.0

REQUIRED INSTRUMENTS/LAB ANALOGS:

Screwdriver, hex, extra short, short, long



CONELOG® Lab analogs, Ø 3.3/3.8/4.3/5.0 mm



CONELOG® Lab analogs with two retention notches

IMPORTANT NOTE
All components for impression taking of CONELOG® implants are for single use only and must not be modified.

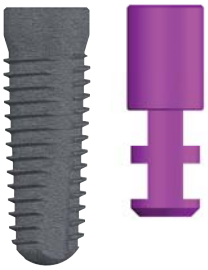
CONELOG®
IMPRESSION TAKING

OPEN-TRAY IMPRESSION-TAKING METHOD

The open-tray impression-taking method requires a custom-made impression tray that is perforated for the protrusion of the fixing screw extending from the implant axis.

CONELOG® Impression posts, open tray

The fixing screw is secured in the CONELOG® impression post with an O-ring and must only be tightened by hand using the screwdriver, hex, both in the CONELOG® implant as well as in the CONELOG® lab analog.

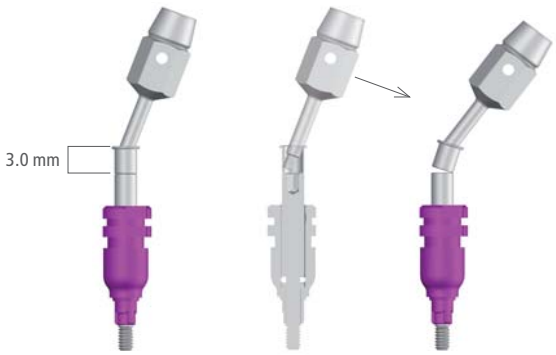


NOTE
Before removing the impression, the loosened screw must be withdrawn until you can feel the limit stop (O-ring). Otherwise the axis divergences of the implant can make removing the impression difficult or can deform the impression due to the high compression.

Impressions can be taken with implant axis divergences of up to 20° (10° for each CONELOG® implant).

The fixing screw is equipped with a predetermined breaking point. If space limitations are encountered, it can be shortened by 3.0 mm by breaking it off with a screwdriver, hex.
Caution: Shorten extra-orally only!

IMPORTANT NOTE
During intraoral use, products must be secured in general against aspiration and swallowing.

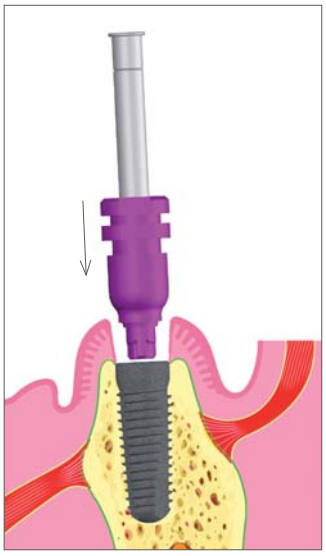


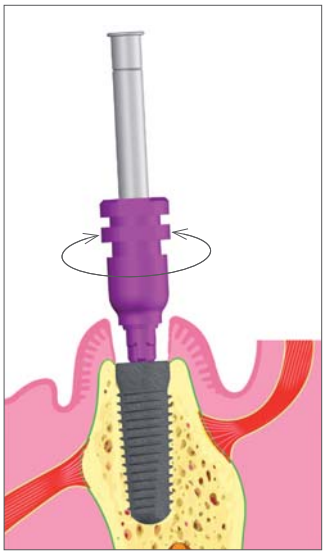
CONELOG® IMPRESSION POST INSERTION

The healing cap or temporary restoration is removed.

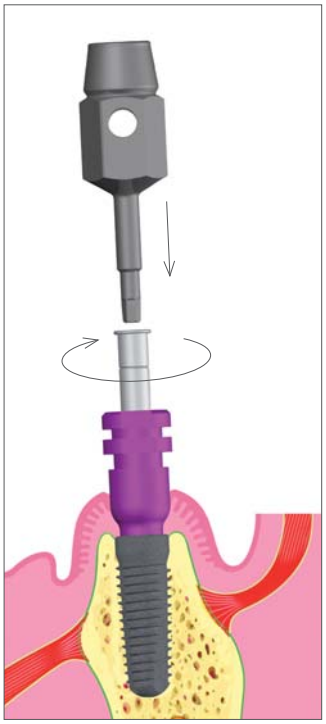
The impression post open-tray is placed on the implant and the fixing screw is gently tightened. The impression post is rotation-symmetrical and does not require any specific orientation. Carefully rotate the impression post in the implant until the cams engage with the grooves of the implant.

CAUTION!
Height difference if cams are not snapped into place is approx. 0.6 mm!





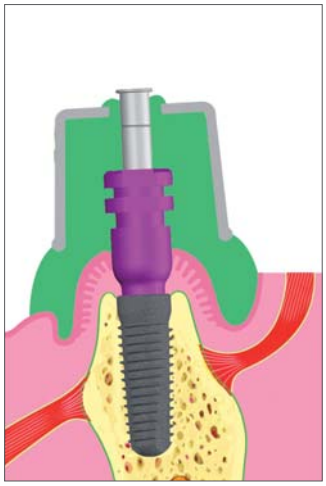
Tighten the fixing screw manually with the screwdriver, hex. We recommend taking an x-ray to check that the impression post is seated correctly before taking the impression, particularly where gingiva is tight and thick.



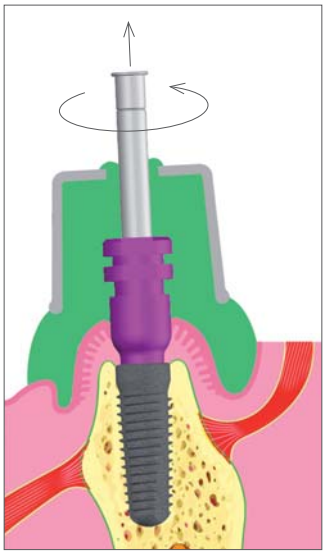
CONELOG®
IMPRESSION TAKING

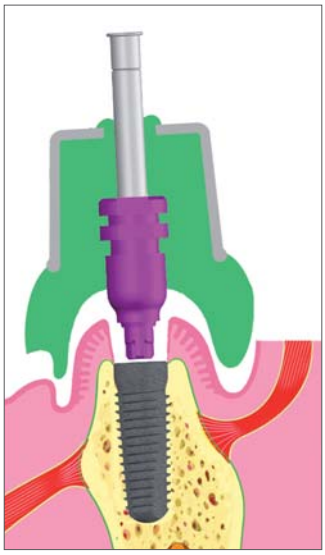
IMPRESSION TAKING

Before taking the impression, check the tray for a precision fit. The fixing screws protruding from the perforations must not touch the tray. The impression is then taken with silicone or polyether impression material.



To remove the impression, loosen the fixing screw, pull it back and then lift off the impression.





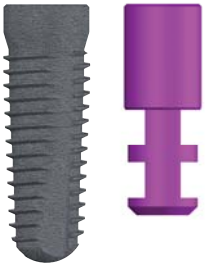
TIP: To simplify the procedure, we recommend sending the laboratory the corresponding CONELOG® lab analog as well.

CLOSED TRAY IMPRESSION-TAKING METHOD

The CONELOG® impression posts, closed tray, are color-coded, have an internal fixing screw and are delivered with an impression cap and a bite registration cap. A prefabricated impression tray can be used for the closed-tray impression-taking method.

CONELOG® Impression posts, closed tray with impression caps

Prosthetic height
10.7 mm



The fixing screw in the CONELOG® impression post must only be tightened by hand using the screwdriver, hex, both in the CONELOG® implant as well as in the CONELOG® lab analog.

When the impression post is inserted, the fixing screw protrudes approx. 2.0 mm.

After tightening the fixing screw, it sits flush with the upper edge of the impression post (4–5 rotations).

CONELOG® IMPRESSION POST INSERTION

After removing the healing cap or the temporary restoration, the impression post (with inserted fixing screw) is inserted into the implant. As you rotate it, you will feel the cams snap into the grooves of the implant.

CONELOG®
IMPRESSION TAKING

NOTE
After the impression post has locked in place and before screwing in, the fixing screw protrudes approximately 2 mm from the post.

Tighten the fixing screw manually with the screwdriver, hex. We recommend taking an x-ray to check that the impression post is seated correctly before taking the impression, particularly where gingiva is tight and thick.

IMPRESSION TAKING

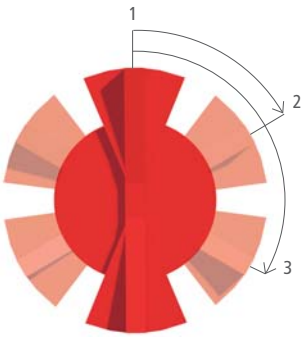
The color-coded impression cap is now placed onto the impression post using the guide grooves until a detectable pressure point is reached and the impression cap is clearly fixed into place. Three guide grooves on the impression post (each at 120°) allow for a contact-free placement with respect to the adjacent impression caps or adjacent teeth. The extensions of the impression caps must not be removed.

Right before taking the impression, check again to ensure that the impression caps are seated correctly.

The impression caps stay in the impression after the impression tray has been removed. If this is not the case, take the impression again.

TIP: To simplify the procedure, we recommend sending the laboratory the corresponding CONELOG® lab analogs as well.

To prevent loss of the fixing screw, the impression post must be shipped attached to the lab analog.



Three guide grooves make three positioning options possible for the impression cap

CONELOG®
CAST FABRICATION

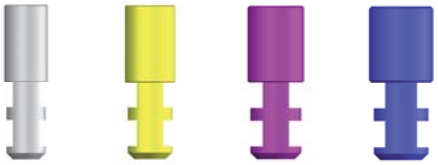
STANDARDIZED CAST FABRICATION

The impression is taken and the working cast manufactured with prefabricated components of the CONELOG® Implant System. The CNC processing technique is used to fabricate all components. A precision rotation-resistant impression system for both closed and open tray impression methods is available. Simple standardized handling is available to the user and accurate transfer of the implant position to the cast is ensured. The impression is taken without abutment and in the CONELOG® implant directly, see page 18.

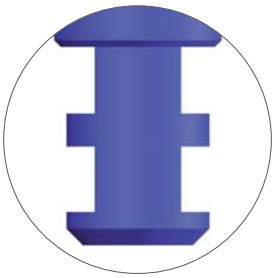
To fabricate the cast, a screwdriver (hex) and the CONELOG® lab analogs corresponding to the diameters are required in addition to the CONELOG® impression posts in the impression. A screwdriver (hex) is used to hand-tighten the CONELOG® impression post fixing screws with the CONELOG® lab analogs for cast fabrication.

Screwdriver, hex, extra short, short, long

CONELOG® Impression posts, open and closed tray



CONELOG® Lab analogs, Ø 3.3/3.8/4.3/5.0 mm



CONELOG® Lab analog with two retention notches

IMPORTANT NOTE
The impression posts and lab analogs may not be modified!

CONELOG®
CAST FABRICATION

CAST FABRICATION, CLOSED TRAY

PREPARATION

After the impression is taken, the impression cap remains in the impression.

Impression cap

In the dental laboratory the CONELOG® impression posts, closed tray, are attached to the corresponding CONELOG® lab analog (note proper seating).

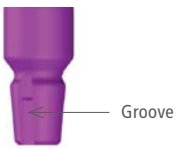
CONELOG®
Lab analog

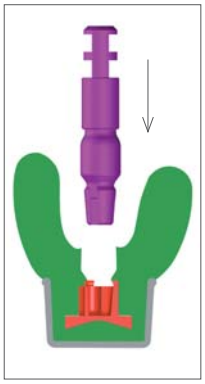
CONELOG® Impression
post, closed tray

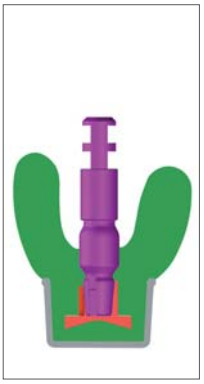
Fixing screw

A screwdriver (hex) is used to hand-tighten the fixing screw.

The components repositioned in the impression caps. Make sure that the grooves correctly engage in the impression cap. Do not use bonding material!



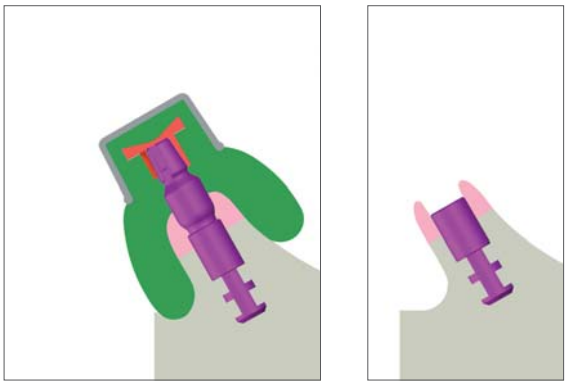




CAST FABRICATION

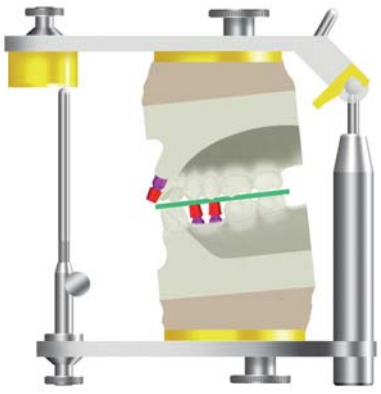
The impression is cast with appropriate cast plaster and the impression posts may not loosen. After curing, the impression is removed and the impression posts loosened from the lab analogs.

TIP: We recommend that you fabricate the cast with a gingival mask. The surrounding gingiva is represented elastically and true to the situation especially for subgingival crown margins and restorations in esthetic areas. An optimal design of the crown contour is easier to achieve.



TIP: After removing the impression, the bite registration caps can be installed on the impression posts in the plaster cast for mounting. After that, the bite registration can be placed on the caps and the casts mounted in the articulator.

Bite registration cap



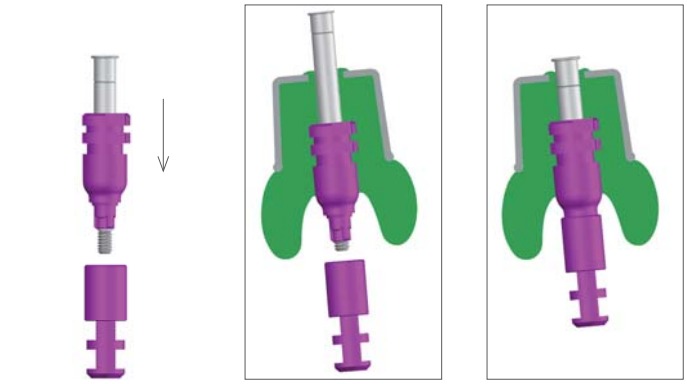
CONELOG®
CAST FABRICATION

OPEN TRAY

PREPARATION

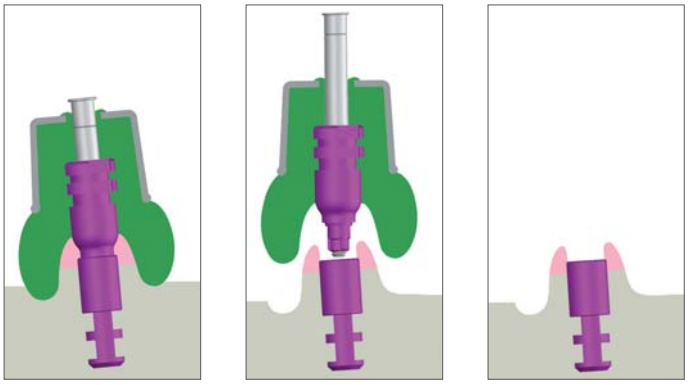
After the impression is taken, the CONELOG® impression posts, open tray, are in the impression.

The CONELOG® lab analogs corresponding to the diameters are attached to the CONELOG® impression posts, open tray, in the impression (note proper seating). A screwdriver (hex) is used to hand-tighten the fixing screw.



CAST FABRICATION

The impression is cast with appropriate model material. After curing, the CONELOG® impression posts are loosened from the CONELOG® lab analogs and the impression is removed.



TIP: We recommend that you fabricate the cast with a gingival mask. The surrounding gingiva is represented elastically and true to the situation especially for subgingival crown margins and restorations in esthetic areas. An optimal design of the crown contour is easier to achieve.

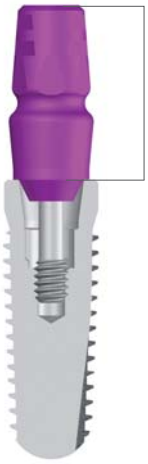
CONELOG®
BITE REGISTRATION POSTS

INTRODUCTION

Color-coded CONELOG® bite registration posts are available for all CONELOG® implant diameters for accurate implant-supported measurement of arch relations and their transfer to the cast situations. The posts include a bite registration cap and an integrated fixing screw.

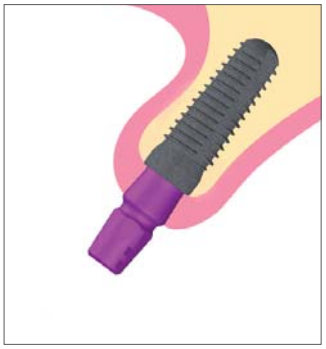
There are two options for taking the bite registration:
- Option A. Bite registration with mounted bite registration caps
- Option B. Bite registration with splinted bite register without caps

The CONELOG® bite registration posts have a prosthetic height of 8.1 mm and are suitable for limited occlusal space conditions. A shortened post/implant connection in comparison to the abutment and impression post connection make the use of splinted bite registration posts with implant abutment divergences of up to 20° possible.



Prosthetic height 8.1 mm

CONELOG® Bite registration post



CONELOG® BITE REGISTRATION POST INCL. BITE REGISTRATION CAP

ART. NO.	C2140.3300	C2140.3800	C2140.4300	C2140.5000
CONELOG® Bite registration post incl. fixing screw and bite registration cap				
Implant Ø mm	3.3	3.8	4.3	5.0
PH mm	8.1	8.1	8.1	8.1

PH: Prosthetic height

SPARE BITE REGISTRATION CAP

ART. NO.	J2112.3300	J2112.3800	J2112.4300	J2112.5000
Bite registration cap (5 units)				
Implant Ø mm	3.3	3.8	4.3	5.0

IMPORTANT NOTE
All components for implant-supported bite registration on CONELOG® implants are for single use only and must not be modified.

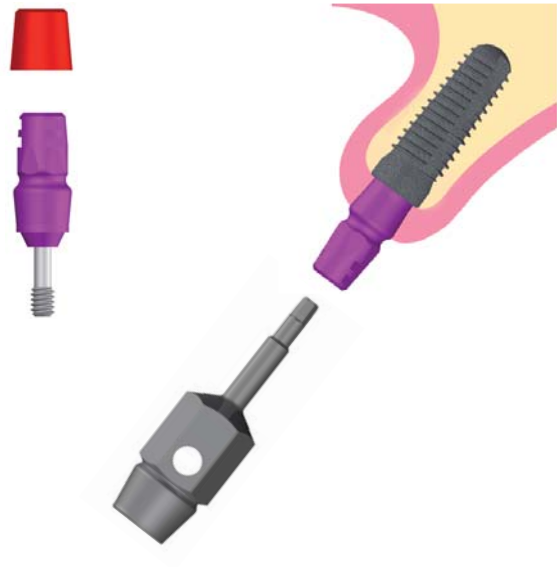
CONELOG®
BITE REGISTRATION POSTS

APPLICATION

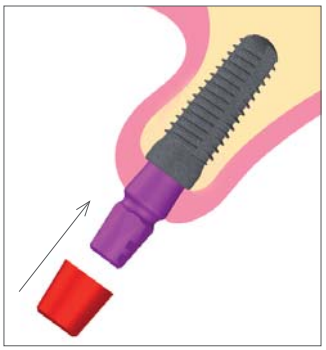
Implant-supported measurement of the arch relations and there transfer to the cast situation may be carried out using CONELOG® bite registration posts with mounted bite registration caps or splinted bite registration posts as a one-piece bite register.

OPTION A.
BITE REGISTRATION WITH MOUNTED BITE REGISTRATION CAPS

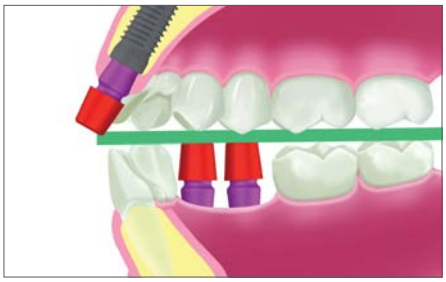
The bite registration posts are placed in the previously cleaned implants and a screwdriver (hex) is used to hand-tighten the fixing screws.



The bite registration caps are placed on the bite registration posts based on the color code and the occlusion is checked. Correct seating is indicated by a perceptible locking feel.

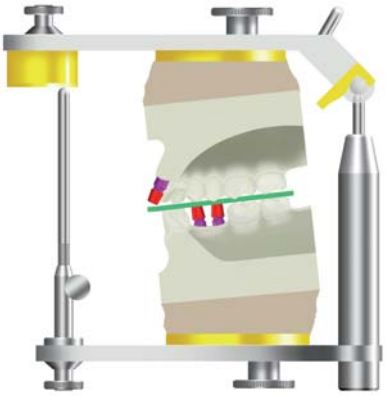


It follows the registration of the arch relations with usual standard materials. The caps should not be allowed to bond to the register.



Remove the bite register, the bite registration caps and the bite registration posts (by loosening the fixing screws) and give all to the dental laboratory. Screw in the bite registration posts into the color-coded lab analogs in the cast and mount the bite registration caps in the final position. Place the bite registration on the caps. Connect the bite registration to the opposing jaw cast and mount the casts in an articulator.

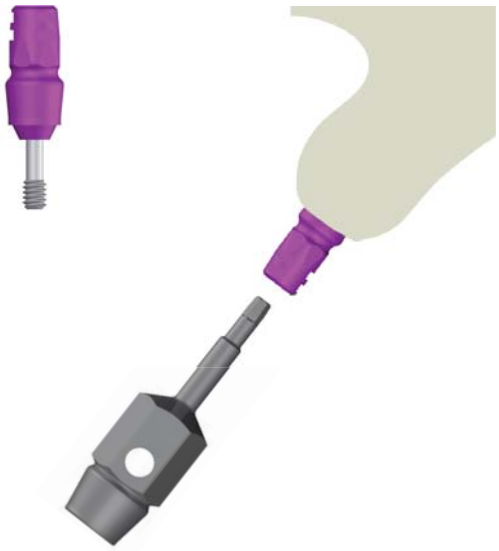
TIP: If bite registration posts cannot be used due to limited space conditions (to prevent bite elevation), a healing cap, cylindrical, height 6 mm, may be used. Record the diameter, the position, and the height of the healing cap on the information work sheet and deliver it with the corresponding healing cap to the dental laboratory.

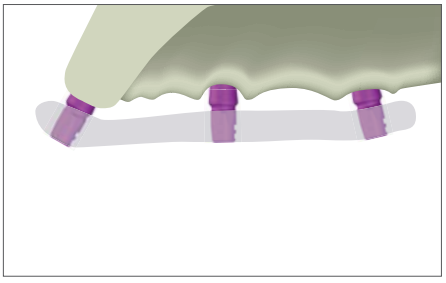


OPTION B.
BITE REGISTRATION WITH SPLINTED BITE REGISTER

After taking the impression and fabricating the cast, fix the CONELOG® bite registration posts in the lab analogs and fabricate a bite register splinted with the posts on the working cast. Coat and connect the bite registration posts with a suitable plastic. Do not cover the fixing screws.

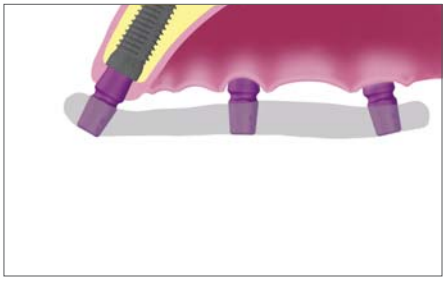
TIP: To avoid distortion stress with larger restorations (edentulous jaw, large gaps), we recommend disconnecting the register between the implant pillars and then reconnecting in the mouth with suitable plastic after attaching to the implants.



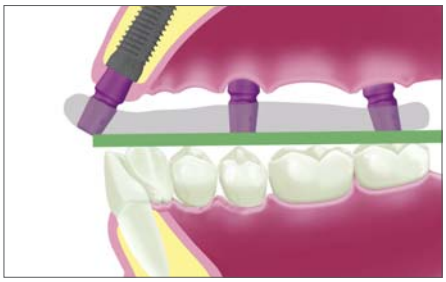


CONELOG®
BITE REGISTRATION POSTS

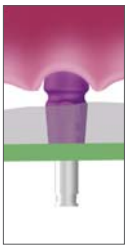
Once the register has been created, it is inserted in the mouth, a screwdriver (hex) is used to hand-tighten the fixing screws and the occlusion is checked.



It follows the registration of the arch relations with usual standard materials.

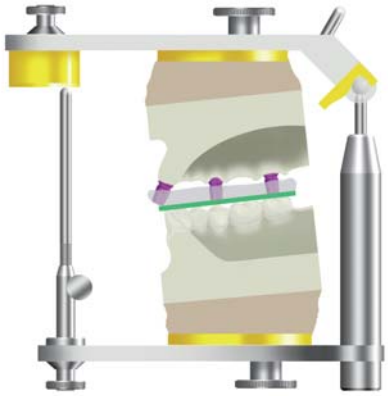


Loosen the fixing screws after curing. To safely remove the bite register, extract the screws from the posts to the stop position. Remove the bite register with the integrated bite registration posts and give it to the dental laboratory.



Fixing screw extracted to the stop position

Mount the bite register with integrated bite registration posts on the lab analogs in the cast and screw on. Connect the bite registration to the opposing jaw cast and mount the casts in an articulator.



CONELOG® TEMPORARY RESTORATION

CONELOG® TEMPORARY ABUTMENT

The CONELOG® temporary abutment is made of titanium alloy and is designed for single-tooth immediate restorations in the esthetic region. If needed, it can be used for long-term temporary restorations. The benefits of immediate implantation with an esthetic, non-functional immediate restoration consist in preservation of the structures of the periodontal or peri-implant tissue in esthetically critical zones. Once an adequate healing (osseointegration) period for the implant has elapsed and the peri-implant soft tissue has matured, a new impression for the final restoration can be taken.

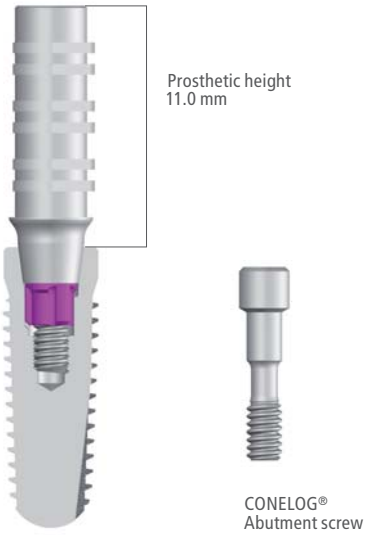
The color-coded CONELOG® temporary abutment is provide with a CONELOG® abutment screw and has a prosthetic height of 11.0 mm. The abutment screw is tightened by hand with the screwdriver, hex. The CONELOG® temporary abutment can be shortened to a custom length.

OPTIONAL:

For fixation of the long-term temporary restoration, the tightening torque is 20 Ncm after a successful healing period of the implant.

PH: PROSTHETIC HEIGHT

The prosthetic height (PH) is the distance between the implant shoulder surface up to the occlusal abutment edge of the CONELOG® abutment screwed into the CONELOG® implant.



CONELOG® TEMPORARY ABUTMENT

ART. NO.	C2239.3300	C2239.3800	C2239.4300	C2239.5000
CONELOG® Temporary abutment (titanium alloy), incl. CONELOG® abutment screw				
Implant Ø mm	3.3	3.8	4.3	5.0
PH mm	11.0	11.0	11.0	11.0

PH: Prosthetic height (measured from the implant shoulder surface to occlusal abutment edge with the CONELOG® abutment screwed into the CONELOG® implant)

CONELOG® TEMPORARY RESTORATION

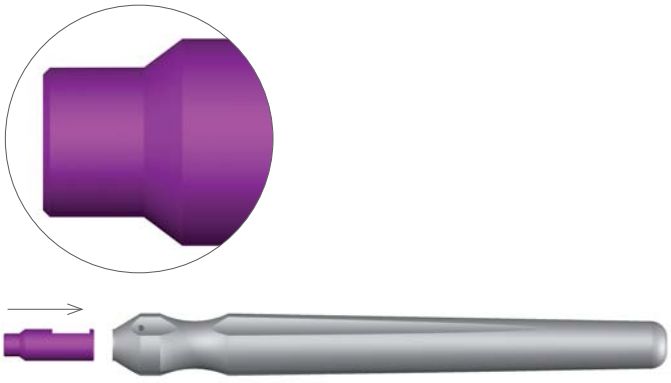
FABRICATION OF A TEMPORARY SINGLE-TOOTH RESTORATION EXAMPLE CHAIR-SIDE

The CONELOG® temporary abutment is inserted into the CONELOG® implant and turned until the cams engage with the grooves of the implant. Next, the CONELOG® abutment screw is inserted into the CONELOG® temporary abutment and tightened by hand with a screwdriver, hex. The vestibular center and the desired occlusal height are marked on the abutment.

Inserting the CONELOG® Temporary abutment

The custom shortening and/or grinding of the CONELOG® temporary abutment is performed extraorally in order to prevent contamination of the surrounding tissue with particles from the grinding. To simplify handling, the abutment can be screwed onto a CONELOG® lab analog or onto a CONELOG® abutment collect for the universal holder.

To protect the CONELOG® abutment screw, we recommend using a CONELOG® lab screw with matching diameter.



CONELOG® Abutment collect with universal holder

ART. NO.	C4006.1601	C4006.2001
CONELOG® Lab screw, hex, brown anodized		
Implant Ø mm	3.3/3.8/4.3	5.0
Thread	M 1.6	M 2.0

IMPORTANT NOTE
The CONELOG® lab screws must not be used on the patient!

CONELOG® Screw design

After customizing and covering with opaque, the CONELOG® temporary abutment is inserted and screwed into the CONELOG® implant. A temporary crown (strip crown) is filled with the appropriate acrylic material and attached to the temporary abutment. To prevent acrylic material from flowing into the screw channel, the channel can be sealed with wax in advance. To loosen the crown again, after the acrylic has hardened, the screw channel of the abutment must be opened for the screwdriver. The crown is then shaped and the abutment inserted back into the implant. The abutment screw is tightened manually.

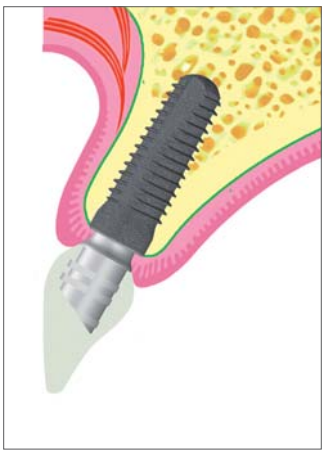
FABRICATION OF A TEMPORARY SINGLE-TOOTH RESTORATION EXAMPLE LAB-SIDE

The temporary restoration can also be fabricated in the dental laboratory on the working cast based on the procedure for fabricating temporary solutions similar to those used in conventional crown restorations.

Customized temporary abutment on the working cast

INSERTION OF THE TEMPORARY CROWN

The inner configuration of the CONELOG® implant is thoroughly cleaned and dried before inserting the CONELOG® temporary abutment. The temporary abutment is inserted into the implant and turned until the cams engage with the grooves of the implant. After tightening the CONELOG® abutment screw manually with a screwdriver, hex, the screw head is sealed with an easily removable material (e.g. gutta-percha). The screw canal can be sealed for esthetic and hygienic reasons with a material that can be removed again later (e.g. composite).

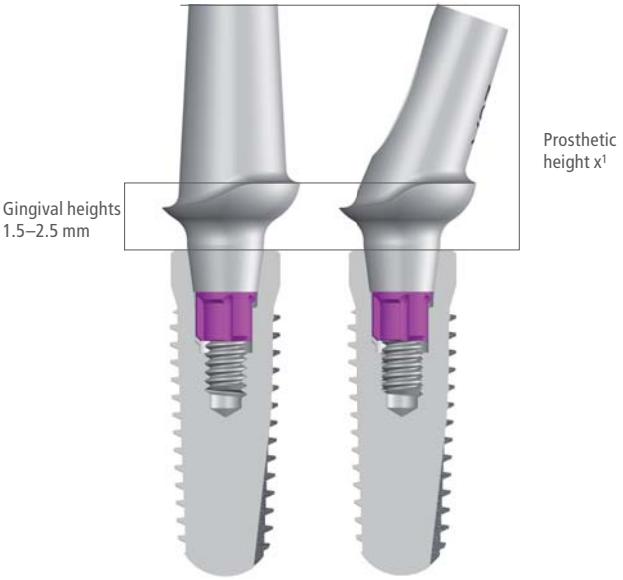


CONELOG® ESTHOMIC® LINE OF ABUTMENTS

CONELOG® ESTHOMIC® ABUTMENTS

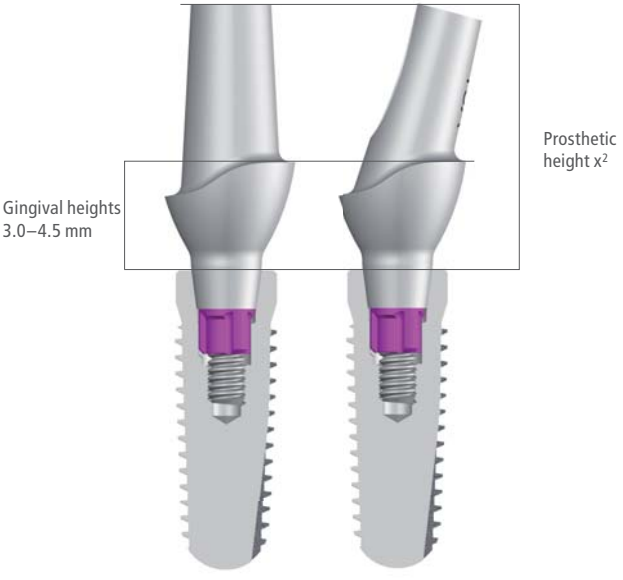
With CONELOG® Esthomic® abutments, cementable crown and bridge restorations can be fabricated in esthetically challenging areas. CONELOG® Esthomic® abutments are made of a titanium alloy, are available in straight and angled versions (15° and 20°, each as Type A and B) and can be modified individually in regards to prosthetic height. CONELOG® Esthomic® abutments are color-coded according to the diameter of the implant and include a CONELOG® abutment screw.

Due to the anatomically appropriate forming of the shoulder and the two selectable gingival heights, individual modifications are reduced in the shoulder area and the processing time shortened. Selectable gingival heights (GH) are 1.5–2.5 mm and 3.0–4.5 mm.



CONELOG® Esthomic® abutments are available based on the gingival height in various prosthetic heights (prosthetic height x[1]/x[2], see information in the tables). The prosthetic height (PH) is the distance between the implant shoulder surface up to the occlusal abutment edge of the CONELOG® abutment screwed into the CONELOG® implant.

The oval base form of the abutment serves as an antirotational mechanism for single crowns.



CONELOG® ESTHOMIC® ABUTMENTS, STRAIGHT

Processing of straight and angled CONELOG® Esthomic® abutments is identical.

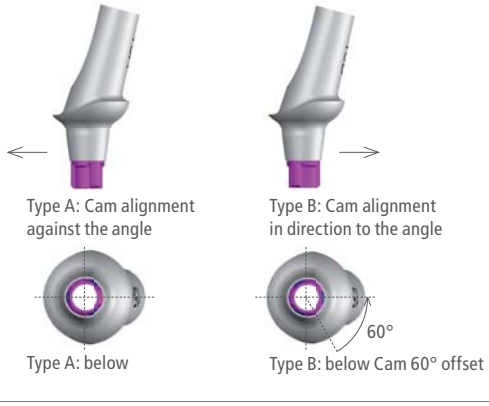
CONELOG® ESTHOMIC® ABUTMENT, STRAIGHT, preparable, incl. CONELOG® Abutment screw, (Ti6Al4V)

ART. NO.	C2226.3815	C2226.3830	C2226.4315	C2226.4330	C2226.5015	C2226.5030
						
Implant Ø mm	3.8	3.8	4.3	4.3	5.0	5.0
GH mm	1.5–2.5	3.0–4.5	1.5–2.5	3.0–4.5	1.5–2.5	3.0–4.5
PH mm	9.7	11.7	9.7	11.7	9.7	11.7

CONELOG® ESTHOMIC® ABUTMENTS, 15° AND 20° ANGLED, TYPE A AND B

Type A and B angled abutments are available in the CONELOG® Esthomic® line of abutments. Type A has a cam opposing the angle direction. In contrast to type A, type B has a 60° offset cam. Both types make six different rotation positions possible to achieve an optimal prosthetic axis alignment.

CONELOG® Abutment cam alignments



CONELOG® ESTHOMIC® ABUTMENT, 15° ANGLED, TYPE A, preparable, incl. CONELOG® Abutment screw, (Ti6Al4V)

ART. NO.	C2227.3815	C2227.3830	C2227.4315	C2227.4330	C2227.5015	C2227.5030
						
Implant Ø mm	3.8	3.8	4.3	4.3	5.0	5.0
GH mm	1.5–2.5	3.0–4.5	1.5–2.5	3.0–4.5	1.5–2.5	3.0–4.5
PH mm	9.4	11.4	9.4	11.4	9.4	11.4

CONELOG® ESTHOMIC® ABUTMENT, 15° ANGLED, TYPE B, preparable, incl. CONELOG® Abutment screw, (Ti6Al4V)

ART. NO.	C2228.3815	C2228.3830	C2228.4315	C2228.4330	C2228.5015	C2228.5030
						
Implant Ø mm	3.8	3.8	4.3	4.3	5.0	5.0
GH mm	1.5–2.5	3.0–4.5	1.5–2.5	3.0–4.5	1.5–2.5	3.0–4.5
PH mm	9.4	11.4	9.4	11.4	9.4	11.4

GH: Gingival height
PH: Prosthetic height (measured from the implant shoulder surface to occlusal abutment edge with the CONELOG® abutment screwed into the CONELOG® implant)

CONELOG® ESTHOMIC® LINE OF ABUTMENTS

CONELOG® ESTHOMIC® ABUTMENT, 20° ANGLED, TYP A, preparable, incl. CONELOG® Abutment screw, (Ti6Al4V)

ART. NO.	C2231.3815	C2231.3830	C2231.4315	C2231.4330	C2231.5015	C2231.5030
						
Implant Ø mm	3.8	3.8	4.3	4.3	5.0	5.0
GH mm	1.5–2.5	3.0–4.5	1.5–2.5	3.0–4.5	1.5–2.5	3.0–4.5
PH mm	9.4	11.2	9.6	11.3	9.6	11.4

CONELOG® ESTHOMIC® ABUTMENT, 20° ANGLED, TYPE B, preparable, incl. CONELOG® Abutment screw, (Ti6Al4V)

ART. NO.	C2232.3815	C2232.3830	C2232.4315	C2232.4330	C2232.5015	C2232.5030
						
Implant Ø mm	3.8	3.8	4.3	4.3	5.0	5.0
GH mm	1.5–2.5	3.0–4.5	1.5–2.5	3.0–4.5	1.5–2.5	3.0–4.5
PH mm	9.4	11.2	9.6	11.5	9.6	11.4

CONELOG® ESTHOMIC® ABUTMENT, INSET

If space is limited, the CONELOG® Esthomic® abutment inset can be used. The diameter of the abutment shoulder is identical to the corresponding implant diameter. The CONELOG® Esthomic® abutment inset is available in gingival height 2.0–3.3 mm.

CONELOG® ESTHOMIC® ABUTMENT, INSET, preparable, incl. CONELOG® Abutment screw, (Ti6Al4V)

ART. NO.	C2235.3320	C2235.3820	C2235.4320	C2235.5020
				
Implant Ø mm	3.3	3.8	4.3	5.0
GH mm	2.0–3.3	2.0–3.3	2.0–3.3	2.0–3.3
PH mm	9.0	9.0	9.0	9.0

GH: Gingival height
PH: Prosthetic height (measured from the implant shoulder surface to occlusal abutment edge with the CONELOG® abutment screwed into the CONELOG® implant)

CONELOG® ESTHOMIC® SELECTION ABUTMENT KIT

After fabricating the master cast, the CONELOG® Esthomic® abutments suitable for the superstructures can be quickly and easily selected using the color-coded CONELOG® Esthomic® selection abutments in the dental laboratory. There is no longer any need for expensive and complicated storage of the original abutments, either by the dentist or at the prosthodontist or dental laboratory.

The CONELOG® Esthomic® selection abutments are identical in geometry to the original CONELOG® Esthomic® abutments. The CONELOG® Esthomic® selection abutments are made of plastic, have only one cam and are fully pigmented. CONELOG® Esthomic® selection abutments are available in the CONELOG® Esthomic® Selection Abutment Kit (contains 2 units each).

The appropriate abutments are selected on the master cast. The implant axis, groove position, gingival line/thickness and implant diameter are taken into account. The CONELOG® Esthomic® selection abutments can be inserted directly into the CONELOG® lab analog and are reusable.

CAUTION!
CONELOG® Esthomic® selection abutments must not be used on the patient!

CONELOG® Esthomic® Selection abutments

Straight

15° and 20° angled as type A and B

ART. NO.	ARTICLE	MATERIAL
C8011.1000	**CONELOG® Esthomic Selection Abutment Kit,** content (2 units each): CONELOG® Esthomic Selection abutments, straight CONELOG® Esthomic Selection abutments, 15° angled, type A CONELOG® Esthomic Selection abutments, 15° angled, type B CONELOG® Esthomic Selection abutments, 20° angled, type A CONELOG® Esthomic Selection abutments, 20° angled, type B	POM

CONELOG® ESTHOMIC® LINE OF ABUTMENTS

To protect the CONELOG® abutment screw when fabricating the prosthetic restoration, we recommend using a CONELOG® lab screw with the corresponding diameter.

IMPORTANT NOTE
The CONELOG® lab screws must not be used on the patient!

ART. NO.	C4006.1601	C4006.2001
CONELOG® Lab screw, hex, brown anodized		
Implant Ø mm	3.3/3.8/4.3	5.0
Thread	M 1.6	M 2.0

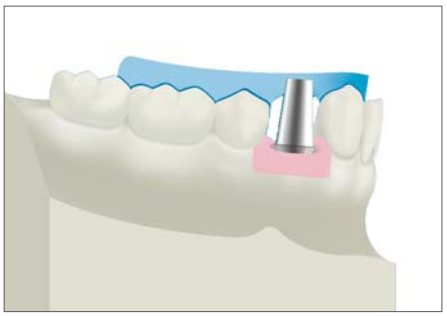
PROCESSING THE CONELOG® ESTHOMIC® ABUTMENT

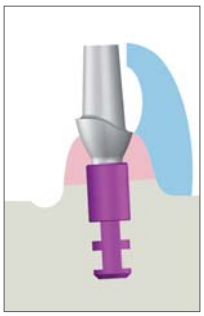
INDIVIDUAL PROCESSING/PREPARATION (EXAMPLE: CEMENTED SINGLE CROWN)

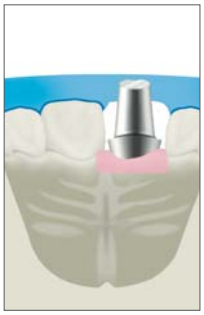
After selecting the suitable CONELOG® Esthomic® abutment, it is individually modified in consideration of the anatomical conditions.

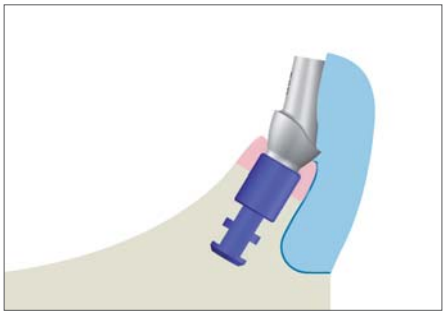
To prepare the abutment and to fabricate the superstructure on the plaster cast, the brown anodized CONELOG® lab screw should be used.

The silicone index prepared in the planning phase is used on the plaster cast for visualization of the desired prosthetic design and as support for achieving the optimal forming of the CONELOG® abutment.

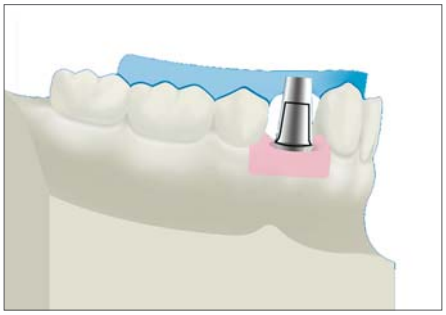






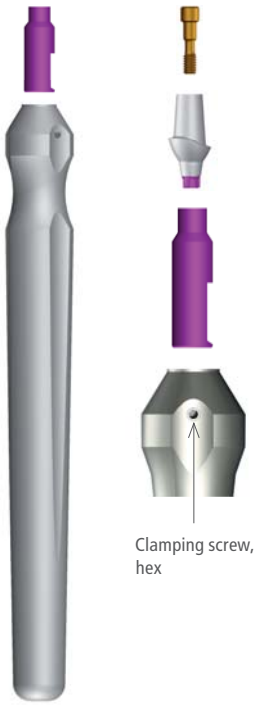


The course of the preparation edge, as well as the height and axial alignment are marked.



To simplify processing the CONELOG® abutment, the universal holder can be used with diameter-matched, color-coded CONELOG® abutment collets. The integrated clamping screw (hex) fixes the required insert (abutment collect) in the handle and the lab screw secures the abutment in the insert.

CONELOG®
Lab screw



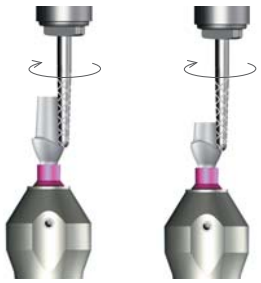
PREPARATION

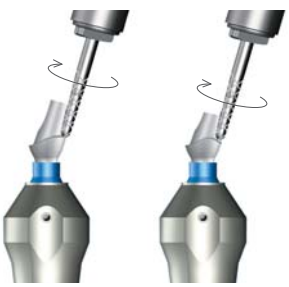
Abrasive wheels suitable for titanium machining are used for the preparation. For fine preparation and to create the chamfer, we recommend finely toothed titanium milling cutter. For grinding, the speeds recommended by the respective manufacturer of the abrasive particles should be maintained. Use only low pressure to avoid overheating the titanium. Overheating causes a heavy «alpha-case» layer to form. It is very hard and can make further processing difficult.

First, the abutment height and axial inclination are adapted, then followed by preparation similar to standard chamfer preparation of a tooth stump based on the perioprosthetics. The ideal preparation angle is approx. 2–4°. For esthetic reasons, the crown margin should lie vestibular 1–1.5 mm subgingivally.

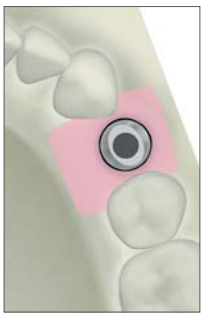
CAUTION!
To safely remove any remaining cement, the cement gap should not lie deeper than 1.5–2.0 mm subgingivally for cemented restorations.

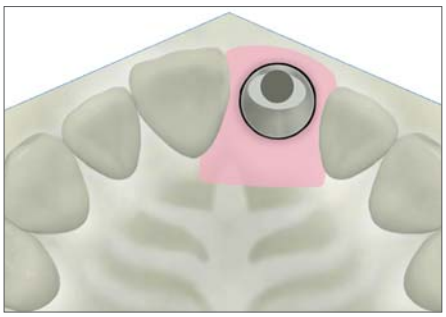
During the preparation process, we recommend to return the abutment into the cast and use the silicone index to check the forming. At the conclusion of the modification, the ground surface is smoothed (e.g. with a gumming unit).



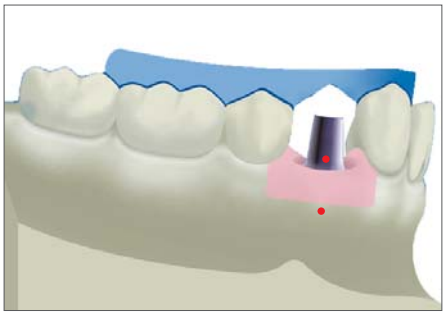


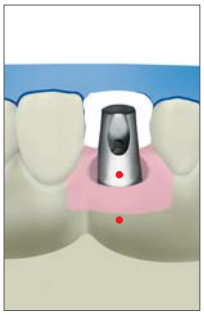
TIP: To make later integration of the crown easier and to ensure antirotational support, the preparation cross-section should not circular, but oval similar to the root cross-section of the natural teeth and include a milled conical guide groove.





TIP: To make orientation/alignment easier when inserting the abutment into the mouth, a mark in the form of a milled depression on the vestibular side can be attached. This mark is also transferred to the plaster cast and makes handling on the cast easier in practice. This is particularly helpful with several abutments.

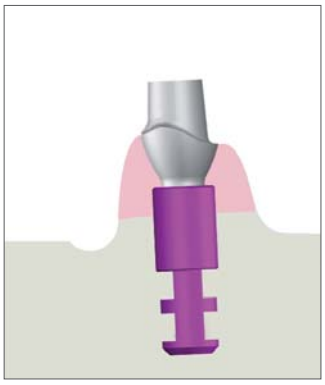


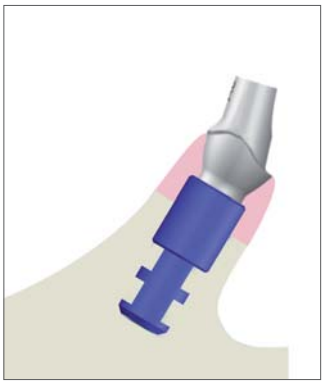


CONELOG® ESTHOMIC® LINE OF ABUTMENTS

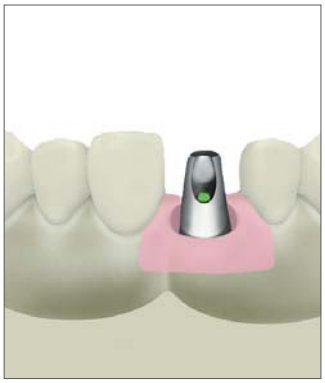
FABRICATION OF A CEMENTABLE CROWN ON A CONELOG® ESTHOMIC® ABUTMENT

After completing the modifications, the abutment can be restored prosthetically.





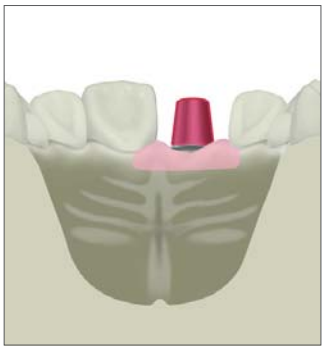
Before shaping of a wax or plastic cap, the screw head must be covered with a soft material and the screw channel closed with a removable material.

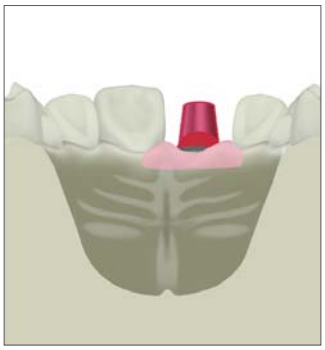


Covering the screw head

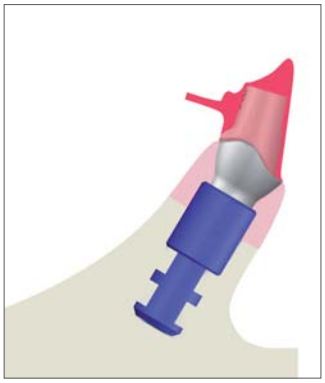
Closing the screw channel

The abutment is coated with suitable separating medium. The wax-up is carried out in the conventional manner similar to perioprosthetics in consideration of function, esthetics and hygienic potential.

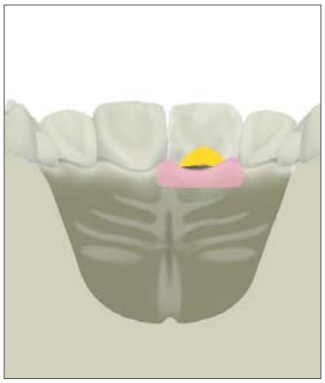


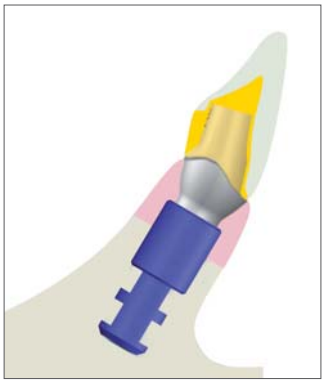


TIP: So that the cast crown framework for veneering can be held with an artery clip and for better removing from the abutment for the framework try-in, we recommend attaching a thin wax wire on the palatinal/lingual area for the wax-up. In practice, the wire also cast can then be removed before the final insertion.

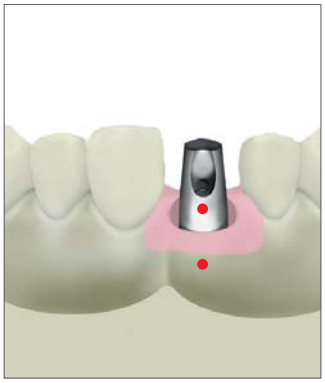


After the cast is made, the crown is veneered and completed.





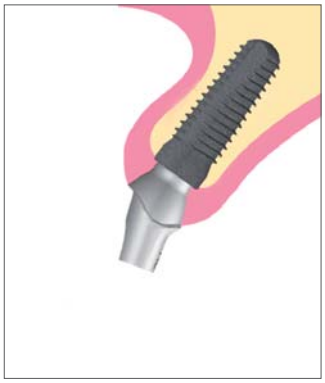
TIP: A vestibular mark makes orienting/aligning easier when inserting the crown in the mouth. This should be identical to the marks made previously on the abutment and cast. This is particularly helpful with several abutments/crowns.



INSERTING THE CONELOG® ESTHOMIC® ABUTMENT AND THE CEMENTABLE CROWN

Clean and disinfect the prosthetic components prior to insertion. We recommend additional sterilization. Clean the internal configuration of the implant with water spray, check for residues and allow to dry. The peri-implant hard and soft tissue situation must allow gapless insertion of the CONELOG® Esthomic® abutment and crown.

To insert, the abutment mark is vestibularly oriented and the abutment slid into the implant. After seating the cams in the CONELOG® implant internal configuration, the CONELOG® abutment is lightly rotated until the cams noticeably slide into the grooves of the CONELOG® implant. The CONELOG® abutment sinks 1.2 mm into the internal configuration of the implant.



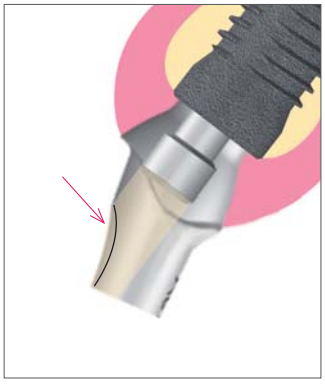
CONELOG® ESTHOMIC® LINE OF ABUTMENTS

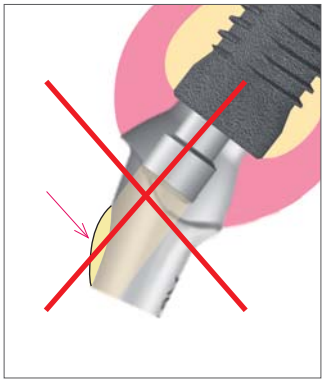
The CONELOG® abutment screw is inserted into the screw channel and tightened with a screwdriver (hex) and the torque wrench with a force of 20 Ncm.

We recommend that you retighten the CONELOG® abutment screw after 5 minutes with the same force to achieve maximum pre-tension on the screws. Only use new and unused abutment screws.

ART. NO.	C4005.1601	C4005.2001
CONELOG® Abutment screw		
Implant Ø mm	3.3/3.8/4.3	5.0
Thread	M 1.6	M 2.0

After tightening the CONELOG® abutment screw, use a removable material to close the screw channel concave. A convex overage should be avoided as this would negatively affect the correct seat of the crown.





Before cementing, the abutment and crown are cleaned and dried in the usual manner. We recommend phosphate or carboxylate cement for the final cementation. Manufacture instructions must be observed. To avoid an air cushion, only a thin layer of cement should be brushed into the crown.

IMPORTANT NOTE
Cement residues in the sulcus must be carefully removed.

ALL-CERAMIC CROWNS

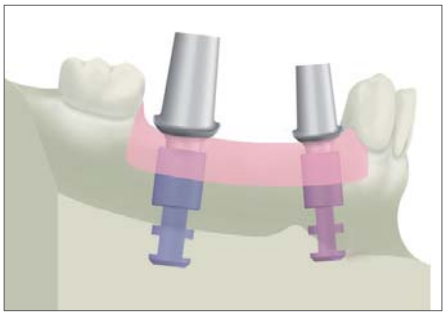
All-ceramic crowns are conditioned and cemented/bonded according to the specifications of the respective ceramic manufacturer.

INDIVIDUAL PROCESSING/PREPARATION (EXAMPLE: CEMENTED BRIDGE)

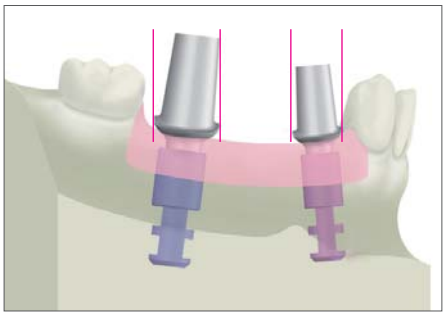
After implantation, the implant axes in the jaw rarely match. Therefore, a uniform insertion direction for the individual abutments must be found for fabricating a bridge construction on CONELOG® Esthomic® abutments. The abutments must be modified in their prosthetic area accordingly.

IMPORTANT NOTE
The insertion direction may not be achieved by grinding the CONELOG® implant abutment connection. This would destroy the precision fit of the abutment in the implant.

The suitable CONELOG® Esthomic® abutments are set in the CONELOG® lab analogs and manually fixed with CONELOG® lab screws. The gingival line is then marked to define the crown margin and occlusal abutment height.



The cast is inserted into a parallelometer or milling machine. The uniform insertion direction of the individual abutments is checked and determined.



The uniform insertion direction of the abutments are prepared:

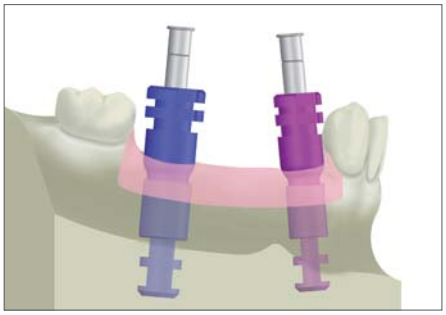
- Manually in the universal holder with alternating control of the master cast loaded in the parallelometer
- On the plaster cast/milling cast loaded in the milling machine

TIP: To protect the plaster cast when processing the CONELOG® Esthomic® abutments, we recommend that you fabricate a corresponding milling cast.

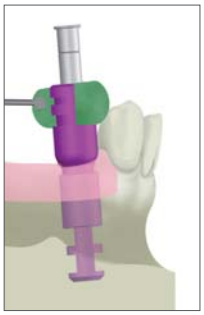
CONELOG® ESTHOMIC® LINE OF ABUTMENTS

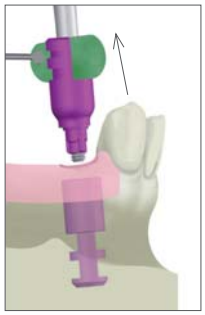
FABRICATING A MILLING CAST:

To transfer the cast situation to an individually fabricated milling base, CONELOG® impression posts, open tray and CONELOG® lab analogs corresponding to the implant diameter are required (see color-coding). The impression posts are mounted to the lab analogs in the cast. Note the proper seating.

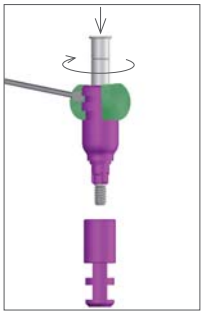


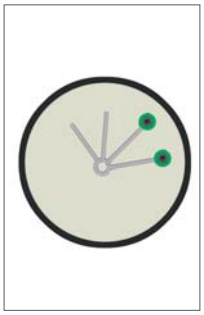
The posts are firmly attached with a transfer assistance with cold-curing plastic in the retentive area (NOT on the fixing screw). After the plastic has cured, loosening and completely backing out the fixing screw, the transfer assistance with the CONELOG® impression posts is removed from the cast.

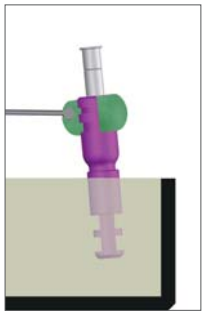




The CONELOG® impression posts are bolted together with the appropriate CONELOG® lab analogs and inserted in a milling disk filled with super-hard dental stone.



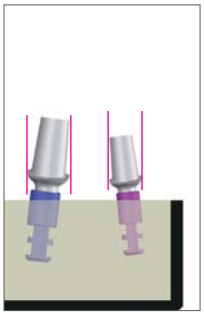


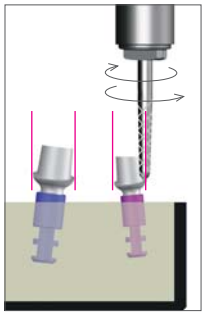


The uniform insertion direction previously determined on the master cast represents the milling axis.

PREPARATION:

The abutment heights and axial inclinations are adapted, then followed by preparation similar to standard chamfer preparation of a tooth stump based on the perioprosthetics. The ideal preparation angle is approx. 2–4°. For esthetic reasons, the crown margin should lie vestibular 1–1.5 mm subgingivally.

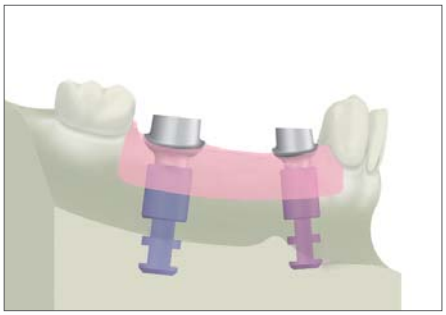




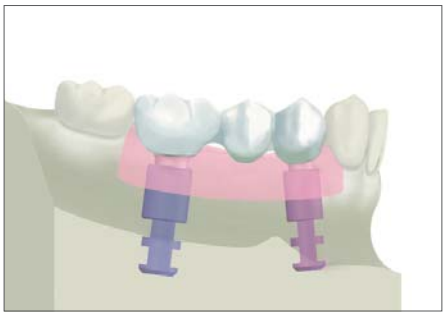
CAUTION!
To safely remove any remaining cement, the cementable gap should not lie deeper than 1.5-2.0 mm subgingivally for cemented restorations.

During the preparation process, we recommend to return the abutment into the cast and use the silicone index to check the forming.

At the conclusion of the modification, the ground surface is smoothed (e.g. with a gumming unit).



Fabrication of a bridge construction on CONELOG® Esthomic® abutments is identical to «Fabrication of a cementable crown» as described on page 42.



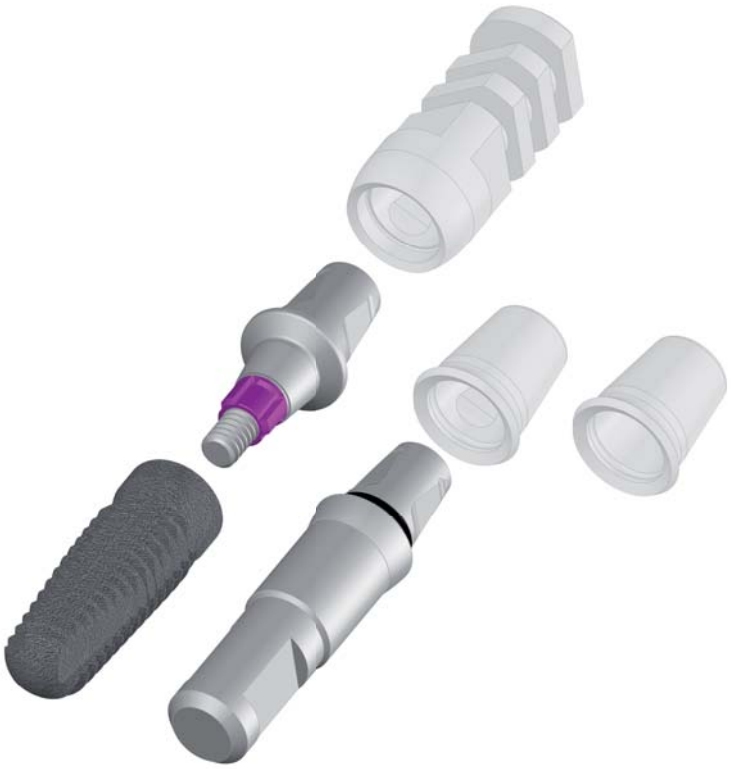
The modified CONELOG® Esthomic® abutments and fabricated bridge construction are cleaned, disinfected and inserted. We recommend additional sterilization (see also description on page 43, «Inserting the CONELOG® Esthomic® abutment and the cementable crown»).

CONELOG® LOGFIT® PROSTHETIC SYSTEM

INTRODUCTION

The CONELOG® Logfit® Prosthetic System enables the fabrication of cementable fixed crown and bridge restorations intended for maintenance of CONELOG® implants in the maxilla and mandible. The Logfit® Prosthetic System consists of prefabricated components precisely matched to one another that standardize the clinical and technical procedure. The result is a lower workload and considerable time savings for the practice and laboratory.

The Logfit® Prosthetic System consists of color-coded CONELOG® Logfit® abutments with two selectable gingival heights (1.0 and 2.5 mm), Logfit® impression caps, Logfit® analogs and burn-out Logfit® plastic copings with and without rotation security for the manufacture of casted crown and bridge structures.



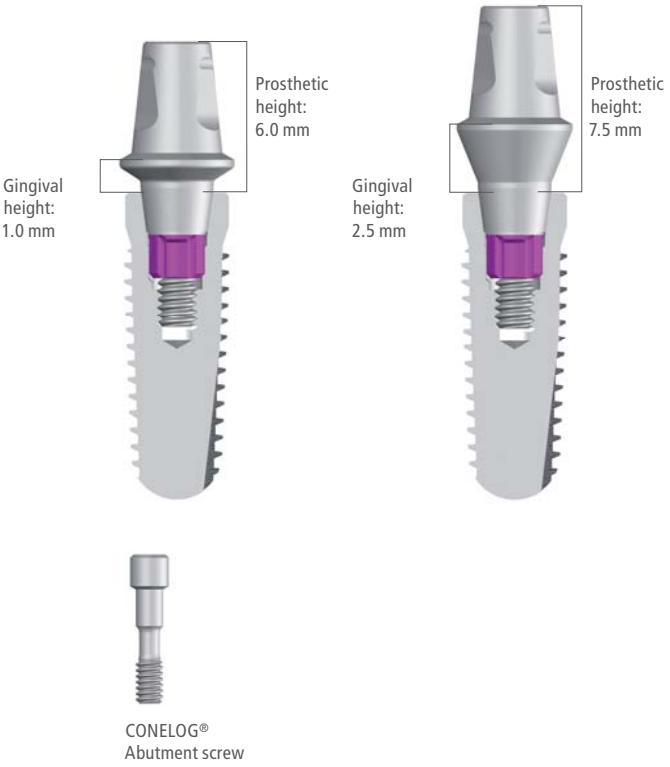
The CONELOG® Logfit® abutment can also be scanned using current dental scanners and the digitally captured geometries used in the fabrication of mesostructures or crown and bridge structures with CAD/CAM techniques.

CONELOG® LOGFIT® ABUTMENTS

CONELOG® Logfit® abutments are available in gingival heights (GH) 1.0 mm and 2.5 mm and in implant diameters 3.8/4.3/5.0 mm. They are color-coded according to the diameter of the implant and include a CONELOG® abutment screw.

CONELOG® Logfit® abutments are available based on the gingival height in various prosthetic heights.

The coronal cone of the CONELOG® Logfit® abutment has an angle of 6°. The results are bridge structures with implant abutment divergences of up to 12°.



CONELOG® LOGFIT® ABUTMENT incl. CONELOG® Abutment screw (Ti6Al4V)

ART. NO.	C2550.3810	C2550.3825	C2550.4310	C2550.4325	C2550.5010	C2550.5025
						
Implant Ø mm	3.8	3.8	4.3	4.3	5.0	5.0
GH mm	1.0	2.5	1.0	2.5	1.0	2.5
PH mm	6.0	7.5	6.0	7.5	6.0	7.5

GH: Gingival height (in mm)
PH: Prosthetic height (in mm, measured from the implant shoulder surface to occlusal abutment edge)

CONELOG® LOGFIT®
PROSTHETIC SYSTEM

SYSTEM OVERVIEW

The overview shows the assignment of the individual Logfit® components for the respective worksteps.

Implant Ø mm	3.8		4.3		5.0	
ART. NO.	C2550.3810	C2550.3825	C2550.4310	C2550.4325	C2550.5010	C2550.5025
CONELOG® Logfit® abutment						
GH mm	1.0	2.5	1.0	2.5	1.0	2.5
Prosthetic diameter	4.8 mm*	4.8 mm*	4.8 mm*	4.8 mm*	6.5 mm*	6.5 mm*
ART. NO.	J2551.4300				J2551.6000	
Logfit® Impression cap						
ART. NO.	J2552.4300				J2552.6000	
Logfit® Analog						
ART. NO.	J2553.4302				J2553.6002	
Logfit® Plastic coping, crown						
ART. NO.	J2553.4301				J2553.6001	
Logfit® Plastic coping, bridge						

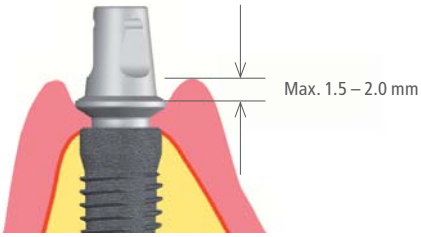
GH: Gingival height (in mm)

*CONELOG® Logfit® abutments for implant diameters 3.8 and 4.3 mm have a prosthetic diameter of 4.8 mm and abutments for implant diameter 5.0 mm, a prosthetic diameter of 6.5 mm. The associated components are matched based on this diameter.

USE

SELECTION AND INSERTION OF THE CONELOG® LOGFIT® ABUTMENT

The clinician selects the CONELOG® Logfit® abutment based on the clinical situation on the patient directly. Selecting the abutment gingival height is based on the given mucosal thickness.

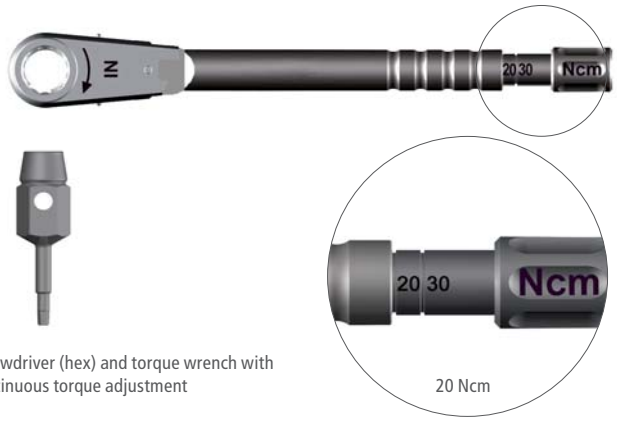


To safely remove any remaining cement, the cement gap should not lie deeper than 1.5–2.0 mm subgingivally.

IMPORTANT NOTE
During intraoral use, products must be secured in general against aspiration and swallowing.

Clean the internal configuration of the implant after removing the healing cap. The selected CONELOG® Logfit® abutment is inserted in the implant and rotated until tactile engagement of the cams in the grooves of the implant. The abutment is then in the final position.

A screwdriver (hex) and torque wrench are then used to tighten the CONELOG® abutment screw with a torque of **20 Ncm.** To achieve maximum pre-tension on the screws, the abutment screw should be retightened with the same torque after approx. 5 minutes.



Screwdriver (hex) and torque wrench with continuous torque adjustment

20 Ncm

We recommend taking a control x-ray to make sure the abutment is correctly seated on the implant.

IMPORTANT NOTE
CONELOG® Logfit® abutments must not be modified. Doing so would disrupt the design of the snap action of the Logfit® impression caps and compromise the matched shape of the Logfit® plastic copings.

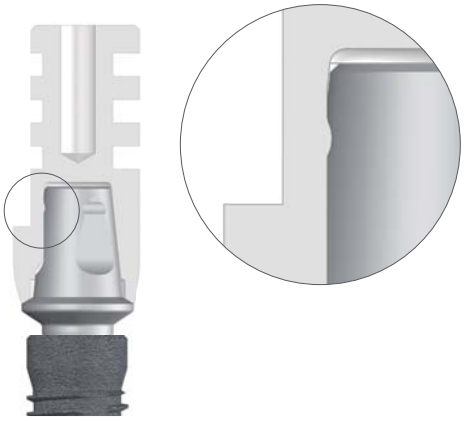
CONELOG® LOGFIT® PROSTHETIC SYSTEM

LOGFIT® IMPRESSION TAKING

The Logfit® impression caps are used over the CONELOG® Logfit® abutments directly to take impressions of the oral situation. Impression taking of the abutment diameters 3.8/4.3 mm and 5.0 mm are taken with a separate Logfit® impression cap.

ART. NO.		ARTICLE	IMPLANT Ø MM	
J2551.4300		Logfit® Impression cap (POM)	3.8	4.3
J2551.6000		Logfit® Impression cap (POM)	5.0	

The Logfit® impression cap is placed on the CONELOG® Logfit® abutment, turned lightly until the rotation protection interlocks and pressed downward carefully. A detectable locking sensation signals the final position. Three plastic retainers hold the impression cap in position while taking the impression.



Snap function

Use a silicone or polyether impression material and a closed tray to take the impression. The impression cap remains in the impression tray after the impression is taken.

After the impression is taken successfully, seal the screw channel of the Logfit® abutment with an easily removable material; the surface should be concave. Logfit® abutments can then be supplied with a temporary restoration in the conventional manner.

TIP: To further simplify the workflow, we recommend that you inform the dental laboratory of the implant diameter used.

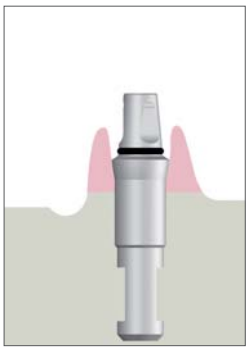
LOGFIT® CAST FABRICATION

For cast fabrication, two separate Logfit® analogs are available for abutment diameters 3.8/4.3 mm and 5.0 mm that are compatible with the specified impression caps.

ART. NO.		ARTICLE	IMPLANT Ø MM	
J2552.4300		Logfit® Analog (Ti6Al4V)	3.8	4.3
J2552.6000		Logfit® Analog (Ti6Al4V)	5.0	

Insert the appropriate Logfit® analog into the impression cap based on the impression cap used and carefully rotate until the rotation protection interlocks. Then carefully press in the analog until a detectable locking sensation signals the final position. During cast fabrication, the analog is secured in the impression cap by the snap function mechanism.

The impression is cast out with appropriate cast plaster and the analog may not loosen. After curing, the impression is removed and the impression caps remain in the impression.



TIP: We recommend that you fabricate the cast with a gingival mask. The surrounding gingiva is represented elastically and true to the situation especially for subgingival crown margins and restorations in esthetic areas. An optimal design of the crown contour is easier to achieve.

CONELOG® LOGFIT®
PROSTHETIC SYSTEM

FABRICATION OF THE PROSTHETIC RESTORATION

To fabricate the prosthetic restoration, prefabricated burn-out Logfit® plastic copings are available for crowns with rotation protection and for bridges with round inner configuration.

Plastic copings are available for abutment diameters 3.8/4.3 mm and 5.0 mm and compatible with the Logfit® analogs. The prefabricated plastic copings allow a cement gap of 20–50 µm for casting with a suitable alloy. A prerequisite is compliance with the instructions of the alloy and investment materials manufacturer.

Logfit® Plastic coping crown with three antirotational surfaces

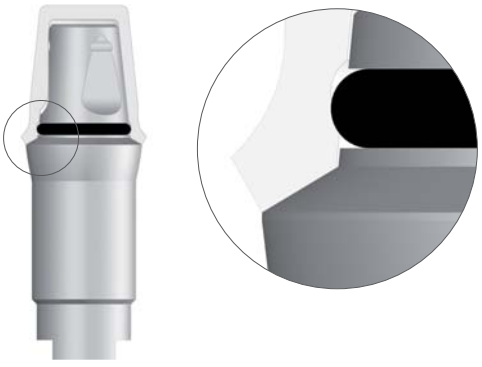
Logfit® Plastic copying bridge with round inner configuration

ART. NO.		ARTICLE	IMPLANT Ø MM	
J2553.4301		Logfit® Plastic coping bridge burn-out (POM)	3.8	4.3
J2553.4302		Logfit® Plastic coping crown burn-out (POM)	3.8	4.3
J2553.6001		Logfit® Plastic coping bridge burn-out (POM)	5.0	
J2553.6002		Logfit® Plastic coping crown burn-out (POM)	5.0	

Place a Logfit® plastic coping crown that matches the implant diameter on a matching Logfit® analog in the cast and carefully rotate until the rotation protection interlocks (example: single-crown restoration). Then carefully press down the plastic coping until it snaps over the O-ring of the analog.

The O-ring ensures appropriate attachment on the analog during the subsequent wax-up of the restoration.

IMPORTANT NOTE
Logfit® components must not be modified. This would compromise the matched shape of the Logfit® plastic copings to the Logfit® abutments.



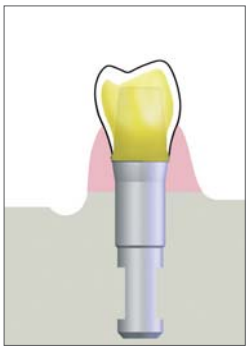
O-ring on the Logfit® Analog

WAX-UP

The framework is waxed up in the usual manner according to the design of the «reduced crown shape». Take care that adequate and uniform ceramic layer can be achieved for the veneering. The minimum wax thickness over the plastic coping should be at least 0.3 mm. Do not cast over the delicate coping edge.

IMPORTANT NOTE

When burning out the casting muffle, swelling may occur due to the thermal expansion of the plastic and damage the investment compound in the area of the plastic coping. This can cause investment compound to be included in the casting metal. Therefore, a minimum wax thickness of 0.3 mm should be applied to the plastic coping. When heating, the wax softens first and gives the plastic enough space to expand.



The ideal framework form can be controlled with a previously prepared silicone index.

TIP: To prevent non-axial loads and over-contouring in the posterior area, we recommend reducing wax-up to premolar size.

CONELOG® LOGFIT®
PROSTHETIC SYSTEM

INVESTMENT, CAST AND DEVESTMENT

The abutment is embedded according to the instruction manual of the muffle system used. We do not recommend the use of wax wetting agents. However, if wax wetting agents are used, it must be suitable for use with POM plastic components. When embedding, the correct placement of the wax-up in the casting muffle is of importance. Volume ratios and pin angles must be selected so that the required temperature for casting is achieved. This is particularly important for voluminous casts.

We recommend phosphate bound investment materials. The manufacturer›s processing instructions must be observed and the mixing ratios and preheating times accurately observed. We recommend you do not use any quick heating processes (speed investment compounds). The cast delay time must be kept as brief as possible.

After casting, the cast object must be slowly cooled to room temperature and the object gently devested. We recommend gentle devestment in an ultrasonic bath with waterjet or stripping.

After trimming, the cast object is prepared for ceramic veneering. The ceramic to be used must be compatible with the alloy (observe heat expansion coefficient). The occlusal surface should be designed based on the «Freedom in centric» concept.

INSERTION AND CEMENTING OF THE PROSTHETIC RESTORATION

Clean and disinfect the prosthetic components prior to insertion. We recommend component sterilization (see also the «Preparation Instructions for the CAMLOG®/CONELOG® Implant System», Art. No. J8000.0032). The peri-implant hard and soft tissue situation must allow gapless insertion of the restoration on the CONELOG® Logfit® abutment.

We recommend phosphate and carboxylate cements for the final cementation. Manufacture instructions must be observed. To avoid an air cushion, only a thin layer of cement should be brushed into the restoration.

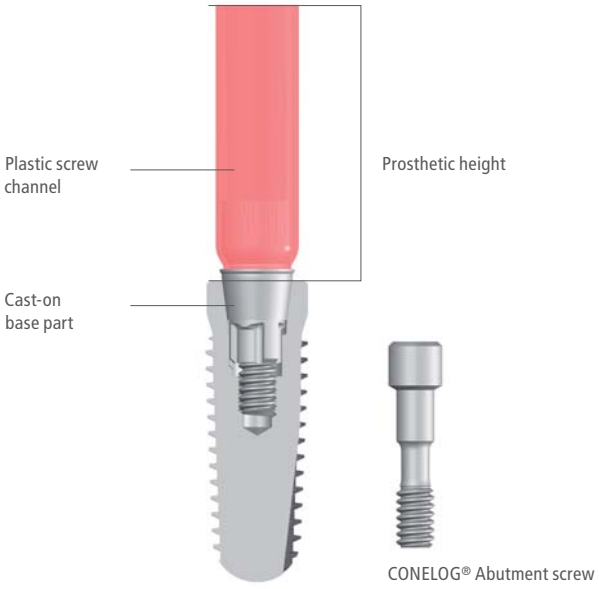
IMPORTANT NOTE
Cement residues in the sulcus must be carefully removed.

CONELOG®
GOLD-PLASTIC ABUTMENT

CONELOG® GOLD-PLASTIC ABUTMENT

The CONELOG® gold-plastic abutment consists of a prefabricated cast-on base part made of a high-melting cast-on gold alloy and a screw channel made of burn-out plastic (POM). The screw channel represents a modeling aid and ensure a clean finish of the screw channel. The screw channel is color-coded, firmly connected to the base part and can be individually shortened occlusally.

The CONELOG® gold-plastic abutment can be used to fabricate single-crowns, individual implant abutments (mesostructures) for cementable bridge restorations and primary abutments for bridging implant axis divergences in the telescopic crown technique using the cast-on technique. The high-melting cast-on gold alloy is only suitable for the cast-on procedure with high-gold alloys.



The prosthetic height (PH) is the distance between the implant shoulder surface up to the occlusal abutment edge of the CONELOG® abutment screwed into the CONELOG® implant.

CONELOG® GOLD-PLASTIC ABUTMENT, cast-on, incl. CONELOG® Abutment screw

ART. NO.	C2246.3300	C2246.3800	C2246.4300	C2246.5000
				
Implant Ø mm	3.3	3.8	4.3	5.0
PH mm	11.75	11.75	11.75	11.75

PH: Prosthetic height (measured from the implant shoulder surface to occlusal abutment edge with the CONELOG® abutment screwed into the CONELOG® implant)

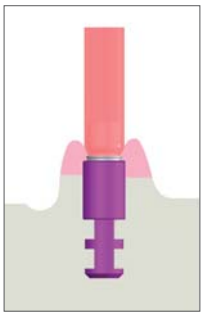
CONELOG®
GOLD-PLASTIC ABUTMENT

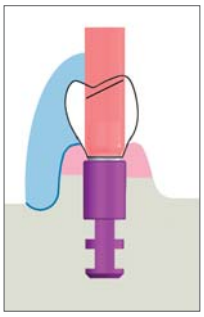
PROCESSING (EXAMPLE: PORCELAIN-FUSED-TO-GOLD CROWN) MODIFICATION OF THE SCREW CHANNEL

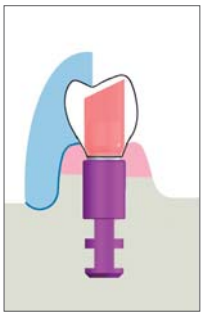
The CONELOG® gold-plastic abutment is set into the CONELOG® lab analog and a screwdriver (hex) used to hand-tighten the CONELOG® lab screw.

ART. NO.	C4006.1601	C4006.2001
CONELOG® Lab screw, hex, brown anodized		
Implant Ø mm	3.3/3.8/4.3	5.0
Thread	M 1.6	M 2.0

Using a previously prepared silicone index, the required height of the screw channel is indicated and shortened accordingly.



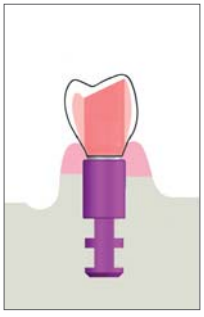




WAX-UP

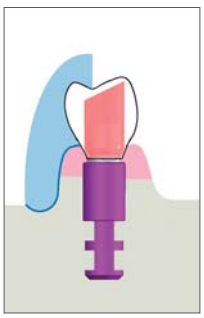
The framework is waxed up in the usual manner according to the design of the «reduced crown shape». Take care that adequate and uniform ceramic layer can be achieved for the veneering.

The minimum wax thickness over the base part must be 0.7 mm to achieve an optimal discharge behavior of the cast-on alloy and to ensure the minimum thickness. The base part consists of a non-oxidizing high-melting cast-on gold alloy and therefore cannot be ceramically veneered (no adhesive oxide formation and a different heat expansion coefficient of the ceramic lead to crack formation in the bonding ceramic).



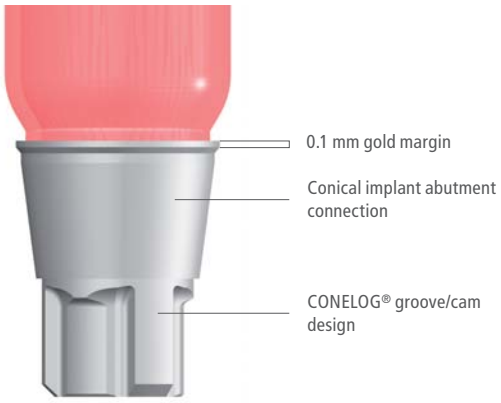
The ideal framework form can be controlled with the previously prepared silicone index.

TIP: To prevent non-axial loads and over-contouring in the posterior area, we recommend reducing wax-up to premolar size.



CAUTION!
Do not cover the fine gold margin (0.1 mm) with wax. This can lead to a surplus of cast-on alloy on the conical surface of the implant abutment connection and ruin the precise fit.

After the wax-up is finished, a suitable agent must be used to clean the fine gold margin and the conical surface of the implant abutment connection of separating medium and wax particles (e.g. with a cotton swab soaked in alcohol).



EMBEDDING AND CASTING

The abutment is embedded according to the instruction manual of the muffle system used. We do not recommend the use of wax wetting agents. The fine film from the agent can lead to a surplus of cast-on alloy on the margin or on the conical surface of the implant abutment connection. When embedding, the correct placement of the wax-up in the casting muffle is of importance. Volume ratios and pin angles must be selected so that the required temperature for formation of a metallic connection is achieved. This is particularly important for voluminous casts.

The investment material must be matched with the cast-on alloy and the casting alloy used. We recommend phosphate bound investment materials. The manufacturer›s processing instructions must be observed and the mixing ratios and preheating times accurately observed. We recommend you do not use any quick heating processes (speed investment materials). The cast delay time must be kept as brief as possible.

INSTRUCTIONS FOR THE CAST-ON ALLOYS

The cast-on alloy may not exceed the liquidus temperature of 1350°C (2462°F) in its melting range. The melting range of the high-melting cast-on gold alloy lies between 1400°C–1490°C (2552°F–2714°F). The cast-on alloy must be highly gold-bearing in its components and be compatible with the high-melting cast-on gold alloy. Observe the instructions of the alloy manufacturer. The use of other cast-on alloys is not recommended.

Components of an unsuitable alloy can lead to phases with reduced corrosion resistance, less stability or a low melting range thanks to «diffusion processes» in the border zone «casting alloy/cast-on alloy».

CONELOG®
GOLD-PLASTIC ABUTMENT

DEVESTMENT
After casting, the cast object must be slowly cooled to room temperature and the object gently devested.

IMPORTANT NOTE
Never use sandblasting to devest the cast; this would destroy the precise fit of the CONELOG® abutment in the conical internal configuration of the implant!

We recommend gentle devestment in an ultrasonic bath with waterjet or stripping.

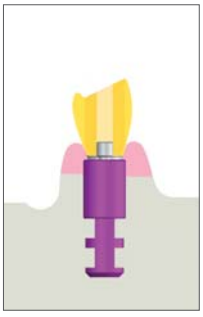
CASTING QUALITY
If the cast object exhibits casting defects after devestment such as incomplete effluence or casting fins/bubbles over the margin on the cone, the work should be repeated. The precision of the prefabricated base part is severely affected and also the long-term success of the prosthetic restoration.

TRIMMING AND VENEERING
To prevent tension cracks in the ceramic, the minimum metal thickness of the metal ceramic alloy must not fall below 0.3 mm in the cast-on area of the base part. If the cast-on alloy is ground through, the work must be repeated because the alloy of the base part does not form any adhesive oxides during the ceramic firing which leads to cracks/spalling in the ceramic.

TIP: We recommend the use of a stereo microscope.

After trimming, the cast object is prepared for ceramic veneering. To protect the CONELOG® implant abutment connection, the cast object should be fixed with a CONELOG® lab analog before sandblasting.

The ceramic to be used must be compatible with the cast-on alloy (observe heat expansion coefficient). The occlusal surface should be designed based on the «Freedom in centric» concept.



DOUBLE CROWN RESTORATION WITH THE CONELOG® GOLD-PLASTIC ABUTMENT

INTRODUCTION

CONELOG® gold-plastic abutments can be used to fabricate a double crown restoration. The rotational stability of the CONELOG® implant abutment connection and high precision manufacturing make the CONELOG® abutments (including universal and telescope abutments) well-suited for fabrication of double crown restorations.

Two different methods are used for fabricating the secondary copings:

- Electroformed secondary copings.
- Cast secondary copings similar to the double crown technique.

For removable superstructures of this type, we recommend inserting at least 6 implants in the maxilla and at least 4 implants in the mandible. The prosthesis design should prevent overloads by extensions. The tension-free seat of a secondary (double crown) or primary (bar) splinted structure on implants is called as «passive fit». With double crown constructions, this is obtained through intraoral bonding of the secondary copings (e.g. electroformed copings) to a tertiary framework. The tension-free seat of the superstructure is of paramount importance for the long-term prognosis of a prosthetic restoration. We recommend bonding secondary copings intraorally in the tertiary framework.

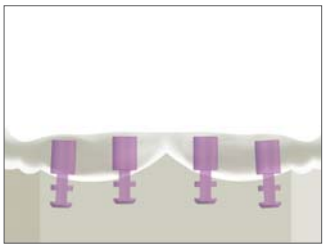
IMPRESSION TAKING AND FABRICATION OF THE PLASTER MODEL

For double crown restorations, the impression is taken with CONELOG® impression post, open or closed tray (see pages 18–24).

For cast fabrication, CONELOG® lab analogs are used (see pages 25–28).

CAST FABRICATION FOR MILLING TECHNIQUE

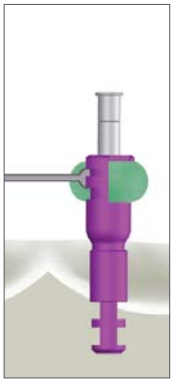
For milling the CONELOG® abutments, we generally recommend creating a separate milling cast. The milling cast is fabricated by transferring the CONELOG® lab analog positions from the working cast using CONELOG® impression posts, which are connected in a transfer construction with suitable acrylic. The construction is connected with acrylic in the retentive area of the impression posts. Acrylic must not get on the fixing screws.



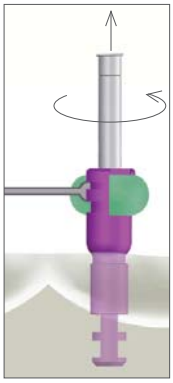
Working cast with CONELOG® Lab analogs

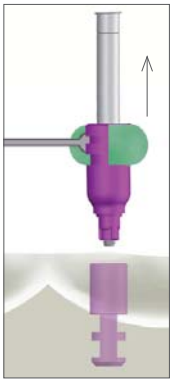
Placing the CONELOG® Impression post, open tray

CONELOG®
GOLD-PLASTIC ABUTMENT



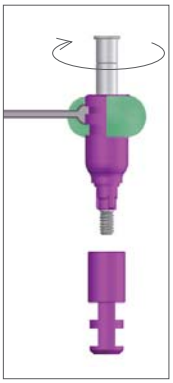
Acrylic connection with transfer construction
in the parallelometer



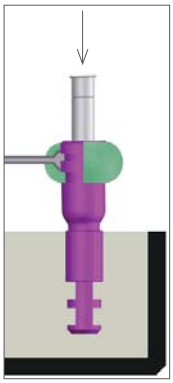


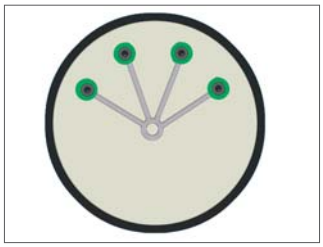
Releasing the CONELOG® Impression post

After the acrylic cures, the CONELOG® impression posts are attached to CONELOG® lab analogs and the milling cast is created in super-hard dental stone. Pay attention to the correct diameter (color-coding).



Screw connection with
CONELOG® Lab analog





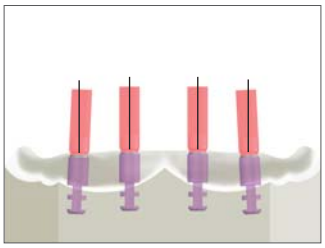
Fabricating the milling cast

CONELOG® LAB SCREWS (HEX)

To fabricate the prosthetic restoration, we recommend using the CONELOG® lab screws (hex) exclusively for fixation the CONELOG® abutments to the casts.

ART. NO.	C4006.1601	C4006.2001
CONELOG® Lab screws (hex)		
Implant Ø mm	3.8/4.3	5.0
Thread	M 1.6	M 2.0

The CONELOG® lab screws are brown anodized and tightened by hand only. New unused CONELOG® abutment screws (hex) are used for final insertion of the restoration.



FABRICATION OF A DOUBLE CROWN RESTORATION WITH THE CONELOG® GOLD-PLASTIC ABUTMENT

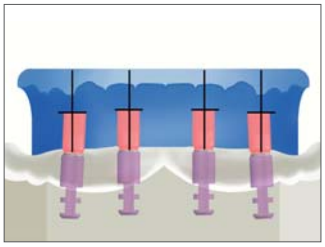
MODIFICATION OF THE SCREW CHANNEL

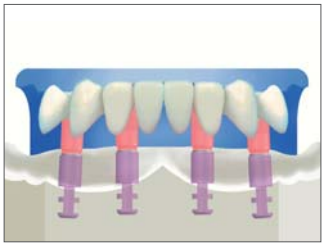
After fabricating the cast, the CONELOG® gold-plastic abutments are inserted into the CONELOG® lab analogs and fixed with the CONELOG® lab screw. A previously prepared silicone index is used to mark the required height on the plastic sleeve. The height of the circular functional surface must not fall below 5 mm, otherwise sufficient retention strength of the construction cannot be achieved.

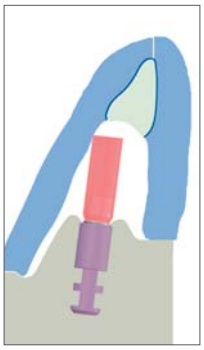
NOTE
The CONELOG® gold-plastic abutment with Ø 3.3 mm is not suitable for double crown restorations.

The high-melting cast-on gold alloy is only suitable for the cast-on procedure with high-gold alloys.

CONELOG®
GOLD-PLASTIC ABUTMENT

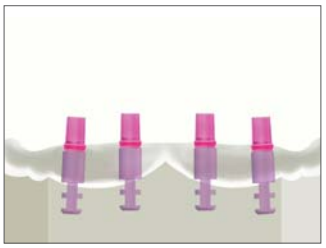


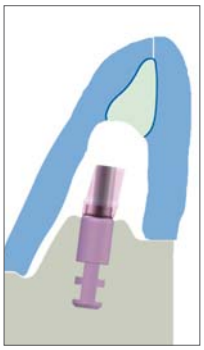




WAX-UP OF THE PRIMARY COMPONENTS

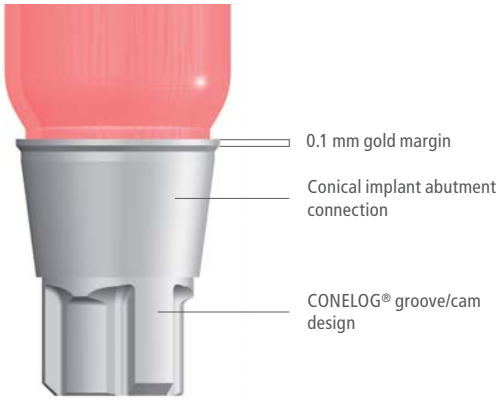
The primary crowns are waxed up with the CONELOG® gold-plastic abutment similar to the conventional double crown technique. The minimum wax thickness over the base part must be 0.7 mm to achieve an optimal discharge behavior of the cast-on alloy.





CAUTION!
Do not cover the fine gold margin (0.1 mm) with wax. This can lead to a surplus of cast-on alloy on the conical surface of the implant abutment connection and ruin the precise fit.

After the wax-up is finished, a suitable agent must be used to clean the fine gold margin of separating medium and wax particles (e.g. with a cotton swab soaked in alcohol).

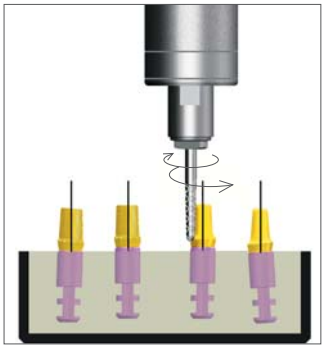


EMBEDDING AND CASTING

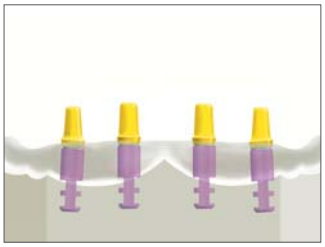
Embedding and casting are carried out as described on pages 59–60.

PROCESSING

After casting, the CONELOG® gold-plastic abutments can be processed on a previously prepared milling cast with suitable abrasives in the parallelometer.

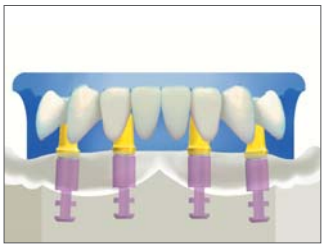


For fabrication of double crowns using the electroplating technique, the manufacturer›s specifications must be observed. The preparation for the cast fabrication of double crowns occurs similar to the cone-telescopic crown technique. To prevent the caps from rotating, the abutments are lightly ground in oval form. The surface must be homogeneous.



TIP: To make orientation/alignment easier when inserting the abutment into the mouth, a mark in the form of a milled depression on the vestibular side can be attached. This mark is also transferred to the plaster cast and makes handling on the cast easier in practice. This is particularly helpful with several abutments.

The space for the tertiary framework required to receive the secondary crowns can be tested at every phase of preparation with the silicone index with the denture teeth in position.



CONELOG®
GOLD-PLASTIC ABUTMENT

FABRICATING SECONDARY COPINGS

The secondary crowns or superstructure are then fabricated. The tension-free seat of the superstructure is of paramount importance for the long-term success of an implant-prosthetic restoration. We recommend bonding the secondary copings intraorally into the tertiary framework (passive fit).

NOTES

Electroformed secondary copings
Electroforming is conducted as specified by the manufacturer. The CONELOG® abutments are inserted into a CONELOG® lab analog of the appropriate diameter and fixed with a CONELOG® lab screw. The thickness should be 0.2–0.3 mm. The special feature of the low layer thickness of the electroformed components and the resulting low stability of the secondary coping prevent direct polymerization in the acrylic denture base. For this reason, a tertiary framework must be fabricated over the secondary copings for reinforcement.

Cast secondary copings
The wall thickness of the secondary copings should be approx. 0.5 mm. Fabrication is similar to standard crown and bridge technique.

CAUTION!
Do not mix up the CONELOG® abutments and secondary copings! We recommend a color buccal marker on the abutment, coping and working cast.

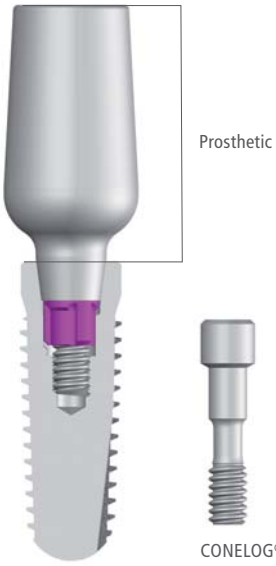
For information about «Fabricating a tertiary framework for double crown restorations», «Bonding of the secondary coping intraorally» and «Insertion of the prosthetic restoration», see pages 70–71.

CONELOG® UNIVERSAL AND TELESCOPE ABUTMENT

CONELOG® UNIVERSAL ABUTMENT

The CONELOG® universal abutment can be used for individually fabricated cementable crown and bridge restorations as well as double crown restorations. The abutment is made of a titanium alloy and can be custom trimmed. Divergences of max. 20° to the implant axis can be compensated for by a suitably adapted forming and bridge restorations inserted.

The CONELOG® universal abutment is color-coded according to the diameter of the implant and includes a CONELOG® abutment screw.



The prosthetic height (PH) is the distance between the implant shoulder surface up to the occlusal abutment edge of the CONELOG® abutment screwed into the CONELOG® implant.

CONELOG® UNIVERSAL ABUTMENT, preparable, incl. CONELOG® Abutment screw, (Ti6Al4V)

ART. NO.	C2211.3300*	C2211.3800	C2211.4300	C2211.5000
				
Implant Ø mm	3.3	3.8	4.3	5.0
PH mm	11.0	11.0	11.0	11.0

PH: Prosthetic height (measured from the implant shoulder surface to occlusal abutment edge with the CONELOG® abutment screwed into the CONELOG® implant)

*Only for crown restorations in the region of the upper lateral and lower lateral and central incisors

IMPORTANT NOTE
The CONELOG® universal abutment with Ø 3.3 mm is not suitable for double crown restorations due to stability reasons.

CONELOG® UNIVERSAL AND TELESCOPE ABUTMENT

CONELOG® TELESCOPE ABUTMENT

The CONELOG® telescope abutment can be used for the fabrication of double crowns (cone/telescope). The abutment is made of a titanium alloy and can be custom trimmed. The abutment has an occlusally widened cone angle of 5° to offset large angulation corrections in the case of disparallel-placed implants. The CONELOG® telescope abutment is color-coded according to the diameter of the implant and includes a CONELOG® abutment screw.

CONELOG® Abutment screw

CONELOG® TELESCOPE ABUTMENT, preparable, incl. CONELOG® Abutment screw, (Ti6Al4V)

ART. NO.	C2212.3800	C2212.4300	C2212.5000
			
Implant Ø mm	3.8	4.3	5.0
PH mm	12.0	12.0	12.0

PH: Prosthetic height (measured from the implant shoulder surface to occlusal abutment edge with the CONELOG® abutment screwed into the CONELOG® implant)

INDIVIDUAL PROCESSING/PREPARATION OF THE CONELOG® UNIVERSAL AND TELESCOPE ABUTMENT

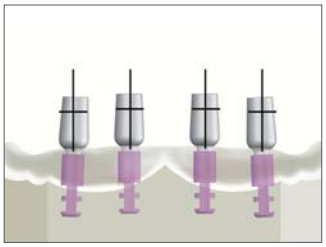
After selecting the suitable CONELOG® universal or telescope abutment for the planned prosthetic restoration, it is individually modified in consideration of the anatomical conditions. To prepare the abutment and to fabricate the superstructure on the plaster cast, the brown anodized CONELOG® lab screw should be used.

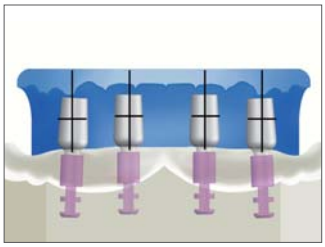
For milling the abutments for a double crown restoration, we recommend fabrication of a milling cast, see pages 61 and 62. Preparation, manufacture of a crown or bridge restoration and insertion are similar to the abutments of the CONELOG® Esthomic® line of abutments as described on pages 40–47.

ART. NO.	C4006.1601	C4006.2001
CONELOG® Lab screw, hex, brown anodized		
Implant Ø mm	3.3/3.8/4.3	5.0
Thread	M 1.6	M 2.0

PROCESSING THE CONELOG® ABUTMENTS
EXAMPLE CONELOG® UNIVERSAL ABUTMENTS

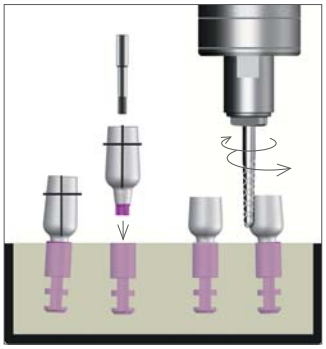
After fabricating the cast, the CONELOG® universal abutments are inserted into the CONELOG® lab analogs and fixed with the CONELOG® lab screw. A previously prepared silicone index is used to mark the height and axis alignments.

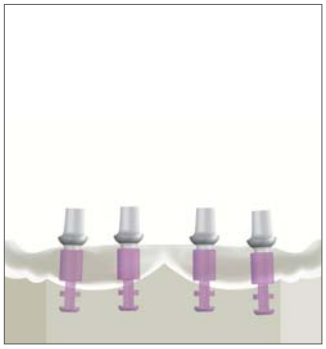




The height of the abutments is first adjusted. The height of the circular functional surface must not fall below 5 mm, otherwise sufficient retention strength of the construction cannot be achieved. The uniform insertion direction is then determined and the abutments are machined with suitable abrasives in the parallelometer. The specified speeds of each abrasive used for titanium machining must be observed.

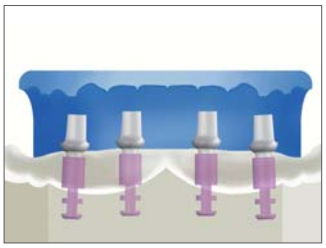
Overheating the titanium leads to a very hard surface (alpha case layer) and should be avoided.

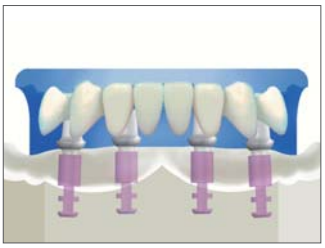




For fabrication of double crowns using the electroplating technique, the manufacturer's specifications must be observed. The preparation for the cast fabrication of double crowns occurs similar to the cone-telescopic crown technique. To prevent the caps from rotating, the abutments are lightly ground in oval form. The surface must be homogeneous.

The space for the tertiary framework required to receive the secondary crowns can be tested at every phase of preparation with the silicone index with the denture teeth in position.





Check of the space conditions with the silicone index on the working cast

FABRICATING THE SECONDARY CROWNS

The secondary crowns or superstructure are then fabricated. The tension-free seat of the superstructure is of paramount importance for the long-term success of an implant-prosthetic restoration. We recommend bonding the secondary copings intraorally into the tertiary framework (passive fit).

NOTES

Electroformed secondary copings

Electroforming is conducted as specified by the manufacturer. The CONELOG® abutments are inserted into a CONELOG® lab analog of the appropriate diameter and fixed with a CONELOG® lab screw. The thickness should be 0.2–0.3 mm. The special feature of the low layer thickness of the electroformed components and the resulting low stability of the secondary coping prevent direct polymerization in the acrylic denture base. For this reason, a tertiary framework must be fabricated over the secondary copings for reinforcement.

Cast secondary copings

The wall thickness of the secondary copings should be approx. 0.5 mm. Fabrication is similar to standard crown and bridge technique.

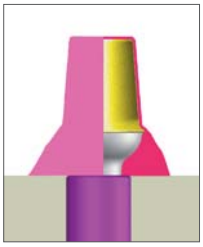
CAUTION!

Do not mix up the CONELOG® abutments and secondary copings! We recommend a color buccal marker on the abutment, coping and working cast.

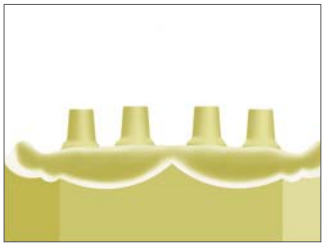
CONELOG® UNIVERSAL AND TELESCOPE ABUTMENT

FABRICATING A TERTIARY FRAMEWORK FOR DOUBLE CROWN RESTORATIONS

A metal framework is essential for stabilizing the acrylic base and securely retaining the secondary coping. To fabricate the tertiary framework, the working cast is blocked out, the copings are waxed over (0.3 mm for bonding gap) and then duplicated.

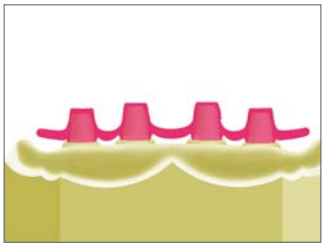


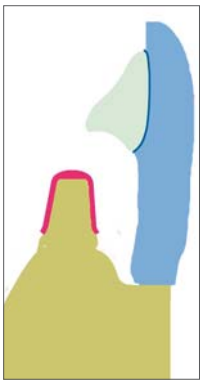
Overwaxing/blocking out the working cast



Finished duplication cast

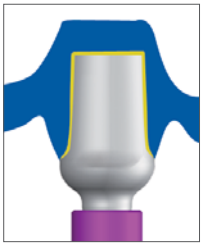
The tertiary framework is built in wax on the duplicate cast with the silicone index as a control.

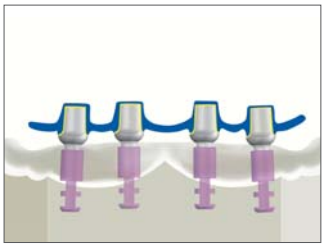




The cervical margin of the secondary coping must be completely covered in metal.

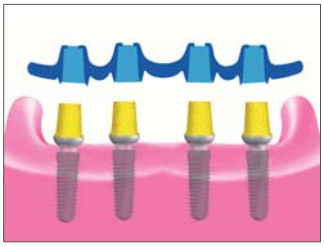
The tertiary framework can be fabricated from titanium or non-precious alloy. Then roughen (e.g. sandblasting) the adhesive bonding surfaces of the secondary copings and tertiary framework to improve adhesion. The subsequent steps for complete fixation of the secondary components are done in the patient's mouth.





BONDING OF THE SECONDARY COPING INTRAORALLY

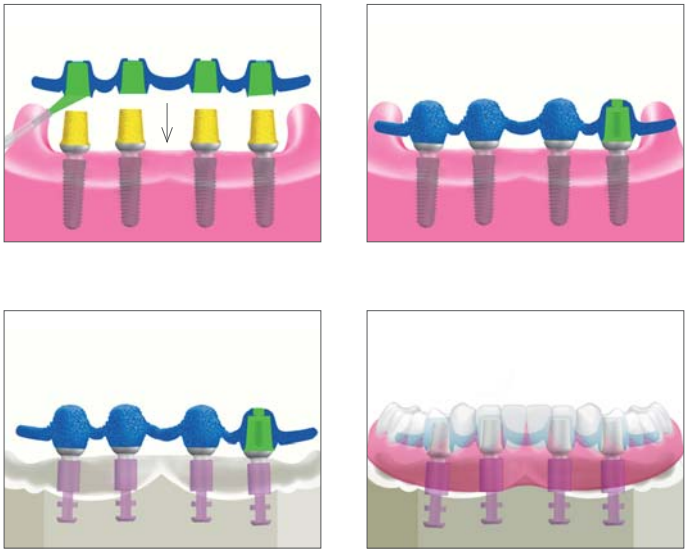
We recommend bonding the secondary copings in the tertiary framework intraorally with a suitable metal bonding material. The modified CONELOG® abutments (primary crowns) are placed in the cleaned CONELOG® implants and the CONELOG® abutment screw is hand-tightened. The secondary copings are then placed on the CONELOG® abutments. Then the tertiary framework is placed and the fit is checked with the secondary coping to ensure that it is seated securely and with an even cement gap.



Follow the manufacturer's instructions for bonding.

After the metal bonding material has set, the framework is removed from the mouth with the secondary coping bonded in without tension. The abutments are removed and sent to the dental laboratory for finishing the secondary coping/CONELOG® abutment transition. If the bonded tertiary framework cannot be replaced on the master cast without tension, the interfering abutment is removed from the master cast for further procedures.

The bonded points are trimmed (removal of excess material and filling of the gap if too little adhesive was used), the construction is coated with a denture-colored opaque layer to improve the cosmetic appearance (optional) and the denture is finished.



INSERTION OF THE PROSTHETIC RESTORATION

The modified CONELOG® abutments (primary crowns) are placed in the cleaned CONELOG® implants and fixed with new unused CONELOG® abutment screws. The torque wrench and a screwdriver (hex) are used to tighten the screws in the implant to the specified torque of 20 Ncm.

CONELOG® abutment screws must be retightened to the same torque after about five minutes to reach the maximum retaining screw tension. This prevents screws from loosening.

The screw channels can then be sealed with suitable materials (e.g. composite) for hygiene reasons. The screw inner configurations are first filled with pliable removable material.

TIP: When sealing the screw channel in the abutments (primary components), ensure that the final surface is concave. All acrylic residue must be removed to ensure that the prosthesis is perfectly seated.

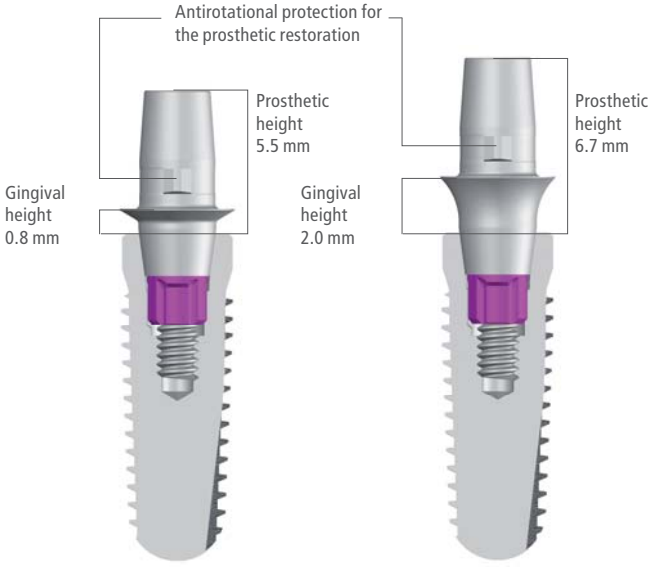
CONELOG®
TITANIUM BASE CAD/CAM

PRODUCT DESCRIPTION

**CONELOG® TITANIUM BASE CAD/CAM,
BONDING BASE FOR INDIVIDUAL CAD/CAM
FABRICATED PROSTHETIC RESTORATIONS**

The CONELOG® Titanium base CAD/CAM enables restorations with individual, highly precise two-part abutments made from zirconium oxide on CONELOG® SCREW-LINE Implants.

The base is available in two gingival heights (0.8 and 2.0 mm) and is used as a bonding base for individual implant-supported reconstructions such as mesostructures and crown-, bridge- and double crown-restorations. The CONELOG® titanium base CAD/CAM includes a CONELOG® abutment screw and a CONELOG® bonding aid.



CONELOG® Titanium base CAD/CAM
GH 0.8/2.0 mm

CONELOG® Abutment screws
M 1.6/M 2.0

CONELOG® TITANIUM BASE CAD/CAM, incl. CONELOG® Abutment screw (Ti6Al4V) and CONELOG® Bonding aid (POM)

ART. NO.	C2244.3308*	C2244.3320*	C2244.3808	C2244.3820	C2244.4308	C2244.4320	C2244.5008	C2244.5020
								
Implant								
Ø mm	3.3	3.3	3.8	3.8	4.3	4.3	5.0	5.0
GH mm	0.8	2.0	0.8	2.0	0.8	2.0	0.8	2.0
PH mm	5.5	6.7	5.5	6.7	5.5	6.7	5.5	6.7

*Only for crown restorations in the region of the upper lateral and lower lateral and central incisors
GH: Gingival height (in mm, measured from the implant shoulder surface to the support shoulder for the mesostructure or superstructure)
PH: Prosthetic height (in mm, measured from the implant shoulder surface to the occlusal base edge)

CONELOG® BONDING AID

Using the CONELOG® Bonding aid, the CONELOG® Titanium base CAD/CAM can easily be screwed onto the CONELOG® Analog without the use of instruments. When blasting the titanium base, the CONELOG® Bonding aid protects the screw channel and avoids flowing of glue into the screw channel.

CONELOG® Bonding aids are available in double packagings in two sizes each with thread M 1.6 for CONELOG® Abutments with implant diameters 3.3/3.8/4.3 mm and thread M 2.0 for implant diameter 5.0 mm. CONELOG® bonding aids are made out of POM and are pigmented black.

CONELOG® BONDING AID, black (2 units, POM)

ART. NO.	C4009.1600	C4009.2000
		
Implant Ø mm	3.3/3.8/4.3	5.0
Thread	M 1.6	M 2.0

PROCESSING

FABRICATION OF A PROSTHETIC RESTORATION

After fabricating the cast, the CONELOG® titanium base CAD/CAM is placed in a CONELOG® lab analog and fixed hand-tight in the lab analog with the CONELOG® bonding aid. Optionally the titanium base can also be fixed hand-tight in the lab analog with the CONELOG® Lab screw using a screwdriver (hex). The titanium base must be seated in the lab analog correctly.

The antirotational protection for the prosthetic restoration should be aligned palatinal/lingual, thus ensuring maximum wall thickness of the restoration on the vestibular side.

CONELOG® LAB SCREWS, hex, brown anodized

ART. NO.	C4006.1601	C4006.2001
		
Implant Ø mm	3.3/3.8/4.3	5.0
Thread	M 1.6	M 2.0

DIRECT SCANNING OF THE CONELOG® TITANIUM BASE CAD/CAM ON THE CAST

The CONELOG® titanium base CAD/CAM can also be scanned using current dental scanners and the digitally captured geometry used in the fabrication of a prosthetic restoration with CAD/CAM techniques. If the titanium base was fixed with a lab screw, the screw channel must be sealed with a removable material before scanning. The undercut of the antirotational mechanism is blocked out. The surface to be scanned is coated with scanspray. The CONELOG® titanium base CAD/CAM can then be scanned.

Precision results can be achieved with scan abutments, whose geometry is saved in applicable dental CAD systems. A current overview of applicable software is available at www.camlog.com.

CONELOG® MODELING AID

The CONELOG® modeling aid is a tool for fabricating mesostructures and crown frameworks on the CONELOG® titanium base CAD/CAM. CONELOG® bonding aids are available color-coded for CONELOG® titanium bases CAD/CAM in implant diameters 3.3/3.8/4.3/5.0 mm. The CONELOG® modeling aid burns residue free and can be shortened to a custom length. The modeling aid can be used for the following procedures:

SCANNING A WAX-UP ON THE CONELOG® MODELING AID:

The modeling aid is coated with commercially available wax or plastic for creating a wax-up. The wax-up is then scanned to digitalize it and read into suitable CAD software as a three-dimensional dataset for further processing. The geometry digitally captured in this manner is used in fabricating prosthetic restorations using CAD/CAM techniques.

CASTING/MOLDING THE CONELOG® MODELING AID:

Alternatively, casting technology can be used to transfer the wax-up to a cast framework or molding techniques used to transfer the wax-up to a pressed framework.

CONELOG® MODELING AID*, for CONELOG® Titanium base CAD/CAM, burn-out (POM)

ART. NO.	C2244.3302	C2244.3802	C2244.4302	C2244.5002
				
Implant Ø mm	3.3	3.8	4.3	5.0

* available in summer 2012

BONDING THE PROSTHETIC RESTORATION TO THE CONELOG® TITANIUM BASE CAD/CAM

After fabricating the prosthetic restoration out of zirconium oxide, the bonding surface of the CONELOG® titanium base CAD/CAM is blasted with 50 µm aluminum oxide at max. 2.0 bar. Then ablate the bonding surface or clean with alcohol (adhesive surface must be free of dust and grease).

TIP: For blasting and bonding, it is recommended that the CONELOG® titanium base be attached to a CONELOG® lab analog to protect the implant abutment connection and for easier handling. The CONELOG® bonding aid can be used to prevent the seepage of bonding material.

The components are connected using a suitable bonding material. The bonding material is mixed according to manufacturer›s instructions and applied to the CONELOG® titanium base CAD/CAM. The individually fabricated mesostructure is mounted and turned until the antirotational protection engages. Then press the mesostructure onto the titanium base as far as it will go. Excess bonding material must be removed immediately.

NOTE
SUITABLE BONDING MATERIAL
To bond the CONELOG® titanium base CAD/CAM and the prosthetic restoration together, we recommend the use of «PANAVIA™ F 2.0» adhesive from Kuraray Europe GmbH, extra-oral (information available at: www.kuraray-dental.de/eng).

When using the «PANAVIA™ F 2.0» adhesive, you may choose between light or chemical curing. Applying the oxygen blocker «OXYGUARD» (www.kuraray-dental.eu) to the titanium/ceramic transition (cervical and in the screw channel) prevents oxygen exposure. Observe the manufacturer›s instructions. After curing, a rubber polisher is used to remove the excess.

The titanium base CAD/CAM with bonded mesostructure can be set in the implant and finally provided with the superstructure (all-ceramic crown/bridge, double crown structure).

CONELOG® SCANBODY

SCAN-TECHNICAL ACQUISITION OF THE CONELOG® IMPLANT-/ANALOG POSITION

The CONELOG® scanbody is used for the optical 3-dimensional intraoral localization (incl. determination of the axial inclination and orientation of the grooves) of CONELOG® implants and of CONELOG® lab analogs in the working model. CONELOG® scanbodies are available for CONELOG® implant diameters 3.3/3.8/4.3/5.0 mm. CONELOG® scanbodies are labeled according to the associated implant diameter and are delivered sterile, each with a CONELOG® abutment screw.

CONELOG® SCANBODY (PEEK), incl. CONELOG® Abutment screw (Ti6Al4V), sterile

ART. NO.	C2600.3310	C2600.4310	C2600.5010
			
Implant Ø mm	3.3	3.8/4.3	5.0

To prevent a vertical offset by the conical implant abutment connection, the CONELOG® scanbody is flush with the shoulder of the CONELOG® implant/lab analog after attachment.

NOTE
The single use of the CONELOG® scanbody is limited to use in the mouth. The CONELOG® scanbody can be repeatedly used on the working model taking its integrity into account.

CONELOG®
VARIO SR ABUTMENTS

VARIO SR PROSTHETIC COMPONENTS

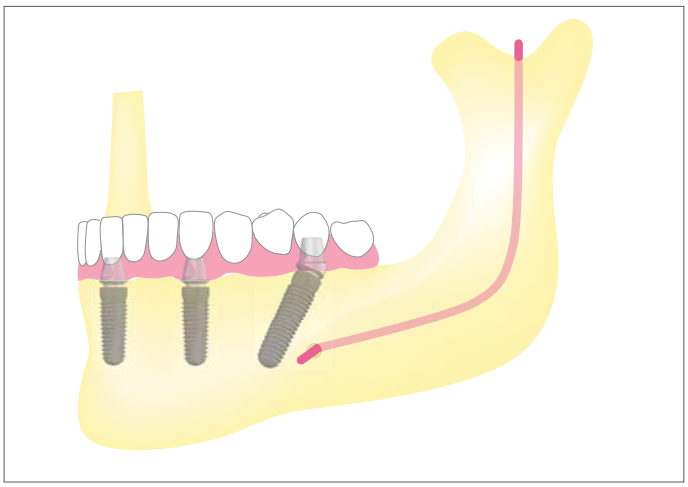
The CONELOG® Vario SR abutments and the Vario SR prosthetic components can be used to fabricate occlusally screw-retained crown, bridge and bar constructions in the maxilla and mandible for the restoration of CONELOG® SCREW-LINE implants.

CONELOG® Vario SR abutments and Vario SR prosthetic components consist of prefabricated components precisely matched to one another that standardize the clinical and technical procedure.

CONELOG® Vario SR prosthetic components contain color-coded CONELOG® Vario SR abutments in straight and in 20° and 30° angled versions, Vario SR impression caps, open/closed tray, Vario SR analogs, burn-out Vario SR plastic copings, Vario SR titanium caps for temporary and final restorations, titanium bases for bars for laser welding and a yellow anodized Vario SR prosthetic screw.

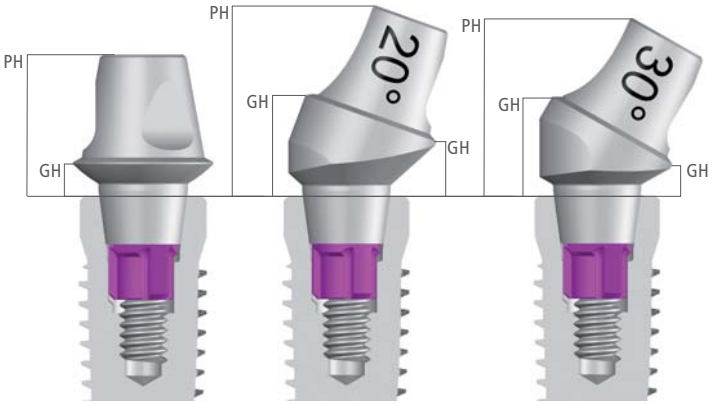
ANATOMICALLY CHALLENGING AREAS

20° and 30° angled CONELOG® Vario SR abutments are available for bridging large implant axis divergences. Where bone supply is reduced and anatomical structures are unfavorable for implantation, the implants can be placed in the distal direction and an appropriate prosthetic restoration can be created. Optimum use of the bone supply is thus ensured.



CONELOG® VARIO SR ABUTMENTS

CONELOG® Vario SR abutments are available in various gingival heights (GH) and in implant diameters 3.8/4.3/5.0 mm. They are color-coded by implant diameter. Straight CONELOG® Vario SR abutments are delivered with a CONELOG® Vario SR abutment screw (Art. No. C4007.1600, M 1.6 for Ø 3.8/4.3 mm; Art. No. C4007.2000, M 2.0 for Ø 5.0 mm). Angled CONELOG® Vario SR abutments include a CONELOG® abutment screw (Art. No. C4005.1601, M 1.6 for Ø 3.8/4.3 mm; Art. No. C4005.2001, M 2.0 for Ø 5.0 mm).



CONELOG® Vario SR abutments are available based on the gingival height (GH) in various prosthetic heights (see information in the tables). The prosthetic height (PH) is the distance between the implant shoulder surface up to the occlusal abutment edge of the CONELOG® abutment screwed into the CONELOG® implant.

CONELOG® VARIO SR ABUTMENTS, STRAIGHT, incl. CONELOG® Vario SR abutment screw

ART. NO.	C2560.3808	C2560.4308	C2560.5008
			
Implant Ø mm	3.8	4.3	5.0
GH mm	1.0	1.0	1.0
PH mm	4.8	4.8	4.8

CONELOG® VARIO SR ABUTMENTS, ANGLED, incl. CONELOG® Abutment screw

ART. NO.	C2561.3800	C2561.4300	C2561.5000	C2562.3800	C2562.4300	C2562.5000
						
Implant Ø mm	3.8	4.3	5.0	3.8	4.3	5.0
Angle	20°	20°	20°	30°	30°	30°
GH mm	3.5–1.9	3.5–1.9	4.0–1.8	3.5–1.1	3.5–1.1	4.5–1.3
PH mm	6.5	6.5	7.0	6.0	6.0	7.0

GH: Gingival height
PH: Prosthetic height (measured from the implant shoulder surface to occlusal abutment edge with the CONELOG® abutment screwed into the CONELOG® implant)
All CONELOG® Vario SR abutments incl. the enclosed abutment screws are sterile packed.

IMPORTANT NOTE

Only Vario SR prosthetic components may be used in combination (exception: angled CONELOG® Vario SR abutments 20°/30° with CONELOG® abutment screws, Art. No. C4005.1601/2001).

CONELOG®
VARIO SR ABUTMENTS

CONELOG® VARIO SR ABUTMENT OVERVIEW

Straight, 20° und 30° angled abutments	Straight CONELOG® Vario SR abutments Ø 3.8/4.3 mm	Angled CONELOG® Vario SR abutments Ø 3.8/4.3 mm	Straight CONELOG® Vario SR abutments Ø 5.0 mm	Angled CONELOG® Vario SR abutments Ø 5.0 mm
				
Abutment screws	CONELOG® Vario SR abutment screw M 1.6 ART. NO. C4007.1600	CONELOG® Abutment screw M 1.6 ART. NO. C4005.1601	CONELOG® Vario SR abutment screw M 2.0 ART. NO. C4007.2000	CONELOG® Abutment screw M 2.0 ART. NO. C4005.2001
				

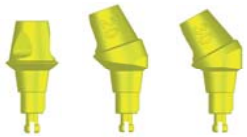
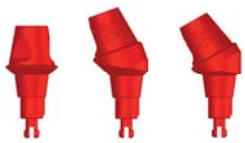
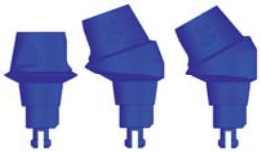
CAUTION!
Only use the matching abutment screw type!

CONELOG® VARIO SR SELECTION ABUTMENT KITS

After fabricating the master cast, the CONELOG® Vario SR abutments suitable for the superstructure can be quickly and easily selected using the color-coded CONELOG® Vario SR selection abutments in the dental laboratory. The CONELOG® Vario SR selection abutments are identical in geometry to the original CONELOG® Vario SR abutments.

The appropriate abutments are selected on the master cast. The CONELOG® Vario SR selection abutments can be inserted directly into the CONELOG® lab analog and are reusable.

CAUTION!
CONELOG® Vario SR selection abutments must not be used on the patient!

ART. NO.		ARTICLE	MATERIAL
C3563.3800		**CONELOG® Vario SR Selection abutment kit for Ø 3.8 mm,** content (2 units each): CONELOG® Vario SR selection abutment, straight CONELOG® Vario SR selection abutment, 20° angled CONELOG® Vario SR selection abutment, 30° angled	POM
C3563.4300		**CONELOG® Vario SR Selection abutment kit for Ø 4.3 mm,** content (2 units each): CONELOG® Vario SR selection abutment, straight CONELOG® Vario SR selection abutment, 20° angled CONELOG® Vario SR selection abutment, 30° angled	POM
C3563.5000		**CONELOG® Vario SR Selection abutment kit for Ø 5.0 mm,** content (2 units each): CONELOG® Vario SR selection abutment, straight CONELOG® Vario SR selection abutment, 20° angled CONELOG® Vario SR selection abutment, 30° angled	POM

POM: Polyoxymethylene

VARIO SR PROSTHETIC COMPONENTS

To fabricate occlusally screw-retained restorations, various Vario SR prosthetic components are available that are attached to the CONELOG® Vario SR abutments and Vario SR analogs using the Vario SR prosthetic screw (M 2.0).

SYSTEM OVERVIEW OF VARIO SR PROSTHETIC COMPONENTS

IMPRESSION TAKING		
Vario SR impression caps open and closed tray, without antirotational mechanism, for impression taking for bar and bridge restorations	 Vario SR impression cap, open tray Ø 3.8/4.3 and 5.0 mm	 Vario SR impression cap, closed tray Ø 3.8/4.3 and 5.0 mm
PH	10.0 mm	11.0 mm
CAST FABRICATION		
Vario SR analogs, for cast fabrication for bar and bridge restorations	 Vario SR analog Ø 3.8/4.3 mm	 Vario SR analog Ø 5.0 mm
TEMPORARY RESTORATION		
Vario SR protection caps, for initial temporary restoration of the CONELOG® Vario SR abutments	 Vario SR protection cap Ø 3.8/4.3 mm	 Vario SR protection cap Ø 5.0 mm
PH	6.0 mm	6.0 mm
FABRICATION OF THE SUPERSTRUCTURE		
Vario SR prosthetic screw, hex, M 2.0, yellow anodized	 Vario SR prosthetic screw for all Vario SR caps and Ø	
Vario SR plastic copings, burn-out, for single crowns with antirotational mechanism, for bridge constructions and cast bar constructions without antirotational mechanism	 Vario SR plastic copings, crown or bridge Ø 3.8/4.3 mm	 Vario SR plastic copings, crown or bridge Ø 5.0 mm
PH	11.0 mm	11.0 mm
Vario SR titanium caps, bridges, without antirotational mechanism, for temporary restorations and/or final bridge restorations	 Vario SR titanium cap, bridge Ø 3.8/4.3 mm	 Vario SR titanium cap, bridge Ø 5.0 mm
PH	11.0 mm	11.0 mm
Vario SR bases for bars, made of titanium, for fabrication of laser-welded titanium bar constructions, without antirotational mechanism	 Vario SR base for bar Ø 3.8/4.3 mm	 Vario SR base for bar Ø 5.0 mm
PH	6.0 mm	6.0 mm

Vario SR caps, copings and analogs are each available for diameters 3.8/4.3 mm and 5.0 mm.
PH: Prosthetic height

CONELOG®
VARIO SR ABUTMENTS

APPLICATION

SELECTION AND INSERTION OF THE CONELOG® VARIO SR ABUTMENTS

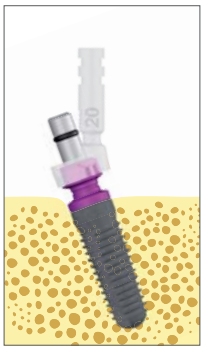
The suitable CONELOG® Vario SR abutment can be selected depending on the clinical situation for bridge and bar constructions on the patient directly.

CONELOG® Vario SR abutments are sterile packed incl. the enclosed abutment screw. Sterilization of the abutment as recommended before insertion is not required for immediate final integration and when the abutments remain in the CONELOG® implant.

The angle of the Vario SR aligning tools is identical to the 20° and 30° angled CONELOG® Vario SR abutments.

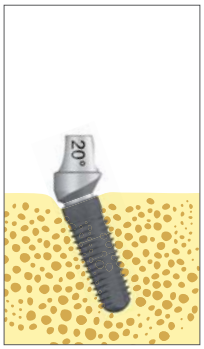
SELECTING ANGLED CONELOG® VARIO SR ABUTMENTS WITH THE ALIGNING TOOLS 20°/30°

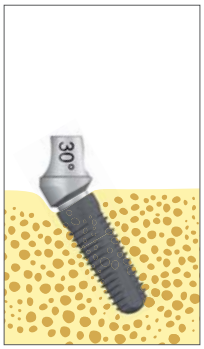
After inserting the implant, the Vario SR 20° and 30° aligning tools can be used when multiple CONELOG® implants are placed to check the respective insertion direction and alignment of the implant grooves before inserting the CONELOG® Vario SR abutments. The respective aligning tool is simply placed over the insertion post attached to the implant. If necessary, the user can slightly adjust the alignment of the grooves of the inner implant configuration. The Vario SR aligning tools are packed sterile.



Vario SR aligning tool 20°

Vario SR aligning tool 30°





2 chamfer = 20°

Vario SR aligning tool and angled CONELOG® Vario SR abutment 20°

3 chamfer = 30°

Vario SR aligning tool and angled CONELOG® Vario SR abutment 30°

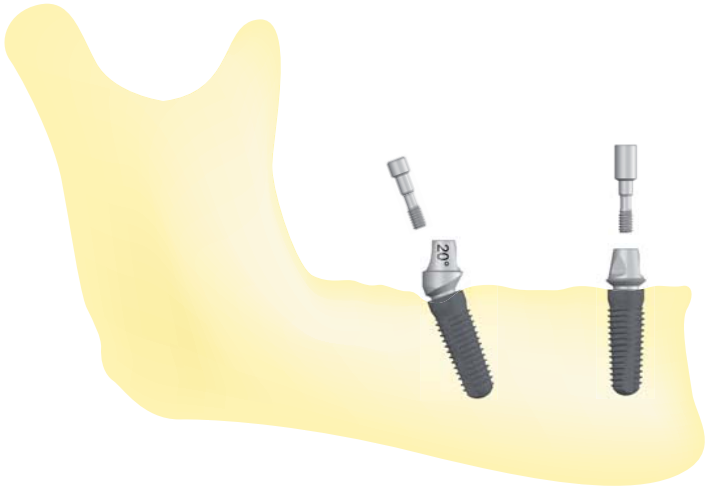
IMPORTANT NOTE
During intraoral use, products must be secured in general against aspiration and swallowing.

ABUTMENT INSERTION

Clean the internal configuration of the implant before inserting the abutment. The selected CONELOG® Vario SR abutment is inserted in the CONELOG® implant and rotated until tactile engagement of the cams in the grooves of the implant. The abutment is then in the final position.

ATTENTION: MAKE SURE THAT THE ABUTMENT SCREW TYPES MATCH!

- Straight CONELOG® Vario SR abutments = use CONELOG® Vario SR abutment screws
- Angled CONELOG® Vario SR abutments (20° and 30°) = use CONELOG® abutment screws



A screwdriver (hex) and torque wrench are used to tighten the abutment screw with a torque of 20 Ncm. To achieve maximum pre-tension on the screws, the abutment screw should be retightened with the same torque after approx. 5 minutes.

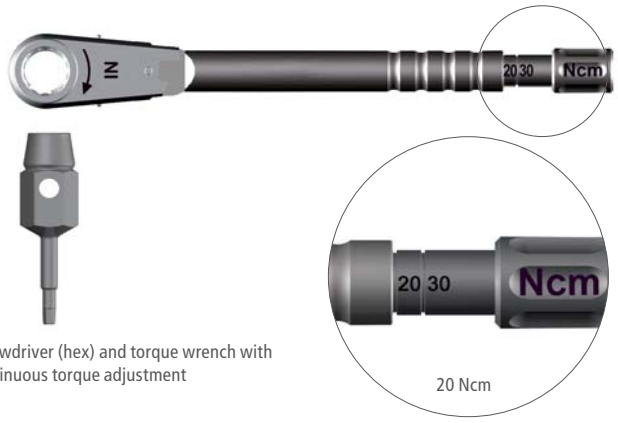
IMPORTANT NOTE

The special design of the CONELOG® Vario SR abutment screw and the CONELOG® Vario SR lab screw for the straight CONELOG® Vario SR abutment requires the sole use of the screwdriver, hex, Art. No. J5316.0501/0502/0503/0504/0510!

We recommend taking a control x-ray to make sure the abutment is correctly seated on the implant.

IMPORTANT NOTE

CONELOG® Vario SR abutments may not be modified. This would compromise the matched shape of the Vario SR prosthetic components.



Screwdriver (hex) and torque wrench with continuous torque adjustment

20 Ncm

Screwdriver, hex, extra short, short, long

CONELOG®
VARIO SR ABUTMENTS

OPTIONS FOR IMPRESSION-TAKING

For bridge and bar constructions, the impression can be taken using Vario SR impression caps, open and/or closed tray, over the CONELOG® Vario SR abutment already in its final position. For single crown restorations, the impression is taken using the CONELOG® impression posts, open and/or closed tray, in the CONELOG® implant directly.

METHODS OF IMPRESSION TAKING, OPEN AND CLOSED TRAY

Components for the open or closed tray method are available for impression taking. If heavily divergent implant axes are present or combination with a functional impression-taking is desired, the open impression-taking method should be used. Never modify the system components. Only implants, abutments and impression components of the same diameter may be used together.

IMPRESSION MATERIAL

Silicone or polyether materials are suitable for the open and closed impression-taking methods.

NOTE
The fixing screws of the CONELOG® impression posts and the Vario SR impression caps, open tray, as well as the Vario SR impression caps, closed tray, may only be tightened by hand!

IMPRESSION-TAKING FOR VARIO SR BRIDGE AND BAR CONSTRUCTIONS

After final fixation of the CONELOG® Vario SR abutments in CONELOG® implants, the impression is taken using the Vario SR impression caps, open or closed tray, directly over the abutment shoulder.

ART. NO.		ARTICLE	IMPLANT Ø MM
J2566.4300		Vario SR impression cap, open tray. incl. fixing screw	3.8/4.3
J2566.6000		Vario SR impression cap, open tray. incl. fixing screw	5.0
J2565.4300		Vario SR impression cap, closed tray	3.8/4.3
J2565.6000		Vario SR impression cap, closed tray	5.0

NOTE
Vario SR impression caps, open and closed tray, have no antirotational mechanism and therefore are only suited for impression-taking directly over Vario SR abutments for bridge and bar constructions.

IMPRESSION TAKING WITH VARIO SR IMPRESSION CAP, OPEN TRAY

Vario SR impression caps, open tray, are equipped with an integrated fixing screw and are placed directly on the CONELOG® Vario SR abutment. When tightening the fixing screw, the thread engages in the occlusal thread of the angled CONELOG® Vario SR abutment or in the head thread of the CONELOG® Vario SR abutment screw in straight abutments. The fixing screw has a break-off point in the upper area. With limited occlusal space conditions, it can be shortened extraorally by 3 mm by breaking it off with a screwdriver (hex).

CAUTION!
Shorten extra-orally only!

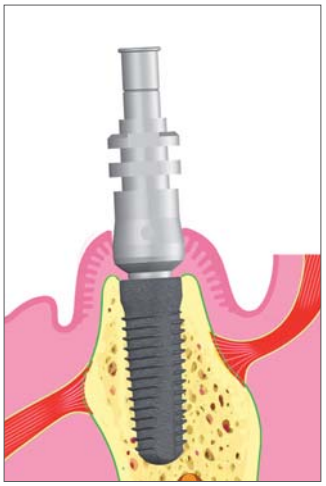
IMPORTANT NOTE
During intraoral use, products must be secured in general against aspiration and swallowing.

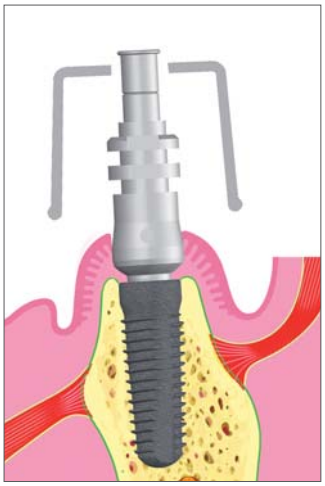
Vario SR impression cap, open tray

The Vario SR impression cap, open tray, is placed on the CONELOG® Vario SR abutment. Tighten the fixing screw manually with the screwdriver, hex. For tight and thick gingiva in particular, we recommend a radiographic check of the correct seating of the impression cap prior to taking the impression.

The impression is taken using an individual tray with perforations for the fixing screw.

Before taking the impression, check the tray for a precision fit. The fixing screws protruding from the perforations must not touch the tray. The impression is then taken with silicone or polyether impression material.

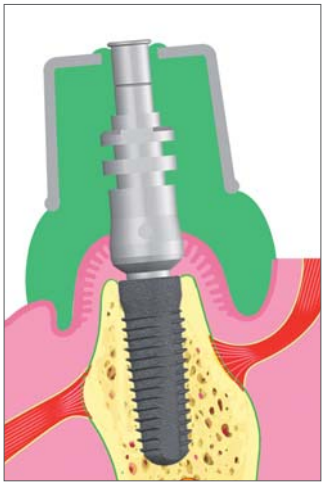




CONELOG®
VARIO SR ABUTMENTS

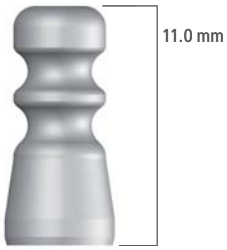
To remove the impression, loosen the fixing screw, pull it back and then lift off the impression. The impression cap remains in the impression.

TIP: To simplify the procedure, we recommend also sending the matching Vario SR analog to the laboratory.



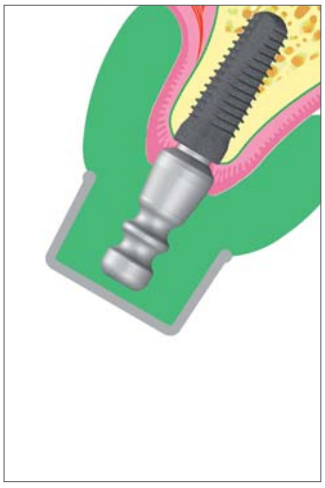
IMPRESSION TAKING WITH VARIO SR IMPRESSION CAP, CLOSED TRAY

Vario SR impression caps, closed tray, are one piece, repositionable and are screwed on the CONELOG® Vario SR abutments directly. An internal thread engages in the occlusal thread of the angled CONELOG® Vario SR abutment respectively in the head thread of the CONELOG® Vario SR abutment screw in straight abutments. A prefabricated impression tray is used for the closed impression method.



Vario SR impression cap, closed tray, repositionable

The Vario SR impression cap, closed tray, is screwed onto the CONELOG® abutment. Before taking the impression, check the tray for a precision fit. For tight and thick gingiva in particular, we recommend a radiographic check of the correct seating of the impression cap prior to taking the impression. The impression is then taken with silicone or polyether impression material.



After removing the impression, the Vario SR impression cap, closed tray, remains on the abutment. The impression cap is removed and given to the lab together with the impression.

TIP: To simplify the procedure, we recommend also sending the matching Vario SR analog to the laboratory.

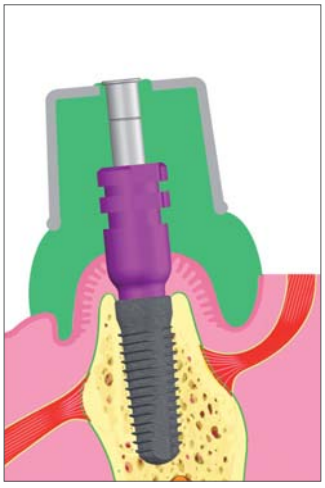
IMPRESSION-TAKING FOR VARIO SR SINGLE CROWN FABRICATION

To fabricate single crown restorations on CONELOG® Vario SR abutments, the impression is taken in the CONELOG® implant directly with a color-coded CONELOG® impression post, open or closed tray. The groove orientation is also transferred over. The impression posts are equipped with a fixing screw that is tightened by hand on the implant using a screw-driver (hex).

NOTE
Taking the impression directly in the CONELOG® implant using a CONELOG® impression post, open and/or closed tray, requires that the cast be fabricated using a CONELOG® lab analog of the same color.

CONELOG® IMPRESSION POSTS, OPEN TRAY

ART. NO.	C2121.3800	C2121.4300	C2121.5000
			
PH mm	10.0	10.0	10.0



CONELOG® IMPRESSION POST, CLOSED TRAY,
incl. impression cap and bite registration cap

ART. NO.	C2110.3800	C2110.4300	C2110.5000
			
PH mm	10.7	10.7	10.7

PH: Prosthetic height

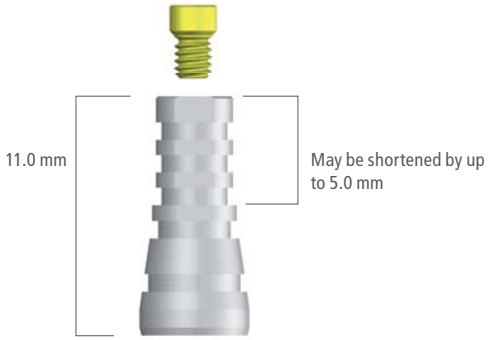
CONELOG®
VARIO SR ABUTMENTS

BITE REGISTRATION ON CONELOG® VARIO SR ABUTMENTS

For accurate implant-supported measurement of arch relations and their transfer to the cast situations, Vario SR titanium caps, bridge, are placed on the CONELOG® Vario SR abutments in the CONELOG® implant and fixed using the Vario SR prosthetic screw.

The caps may be shortened occlusally by 5.0 mm (extra-orally) including the third chamfer.

IMPORTANT NOTE
During intraoral use, products must be secured in general against aspiration and swallowing.



Vario SR titanium cap, bridge, with Vario SR prosthetic screw

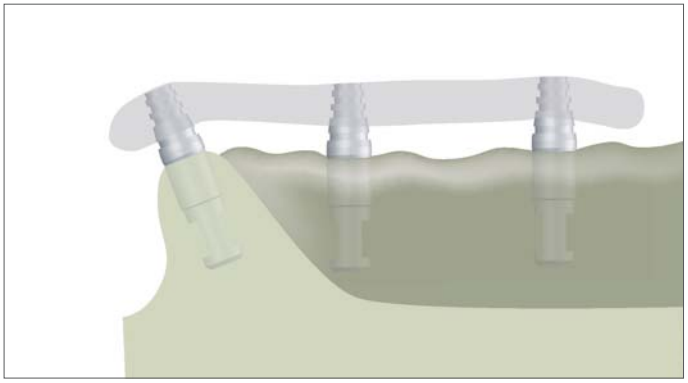
POSSIBLE OPTIONS

Implant-supported measurement of the arch relations and their transfer to the cast situation may be carried out using the Vario SR titanium caps optionally with applied commercial materials for the bite registration or splinted Vario SR titanium caps as a one-piece bite register.

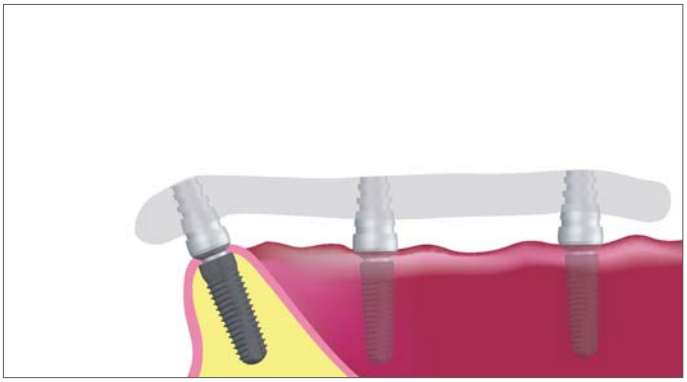
EXAMPLE BITE REGISTRATION WITH SPLINTED VARIO SR TITANIUM CAPS

After taking the impression and fabricating the cast, the Vario SR titanium caps, bridge, are screwed onto the Vario SR analogs and a bite register splinted with the caps fabricated on the working cast. The Vario SR titanium caps, bridge, are wrapped with a suitable plastic and joined. The Vario SR prosthetic screws must not be covered.

TIP: To correct distortion stress with larger restorations (edentulous jaw, large gaps), we recommend disconnecting the register between the caps and then reconnecting in the mouth with suitable plastic after attaching to the CONELOG® Vario SR abutments.



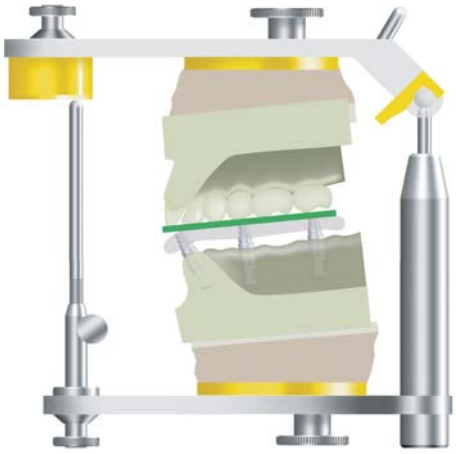
Once the register has been created, it is inserted in the mouth with the caps, a screwdriver (hex) used to hand-tighten the Vario SR prosthetic screws and the occlusion checked.



Then the registration of the habitual arch relations is carried out using standard materials.

Loosen the Vario SR prosthetic screws after curing. Remove the bite register with the integrated caps and give it to the dental laboratory.

Mount the bite register with integrated titanium caps on the Vario SR analogs in the cast and screw on. Connect the bite registration to the opposing jaw cast and mount the casts in an articulator.



CONELOG®
VARIO SR ABUTMENTS

CAST FABRICATION

STANDARDIZED CAST FABRICATION

Impression-taking and fabrication of the cast for bridge and bar constructions take place by using prefabricated Vario SR components, and for single crowns, with components of the CONELOG® Implant System. The fixing screws of the Vario SR impression caps, open tray, respectively the CONELOG® impression posts, open and closed tray, are hand-tightened using a screwdriver (hex) with the Vario SR analogs or CONELOG® lab analogs for cast fabrication.

NOTE
The components must not be modified!

CAST FABRICATION FOR BRIDGE AND BAR RESTORATIONS WITH VARIO SR ANALOGS

If the impression was taken using the already inserted CONELOG® Vario SR abutment (straight and/or angled), the Vario SR analog is used. The Vario SR analog is hand-tightened onto the respective Vario SR impression cap, open or closed tray, used.

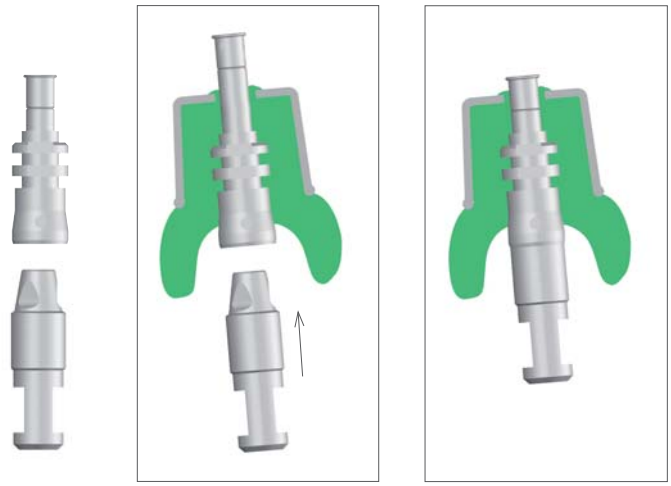
ART. NO.		ARTICLE	IMPLANT Ø MM
J2567.4300		Vario SR analog	3.8/4.3
J2567.6000		Vario SR analog	5.0

NOTE
Vario SR impression caps, open and closed tray, have no antirotational mechanism and therefore are only suited for impressions directly over CONELOG® Vario SR abutments for bridge and bar constructions. Therefore, the cast is only fabricated with Vario SR analogs.

CAST FABRICATION WITH VARIO SR IMPRESSION CAP, OPEN TRAY

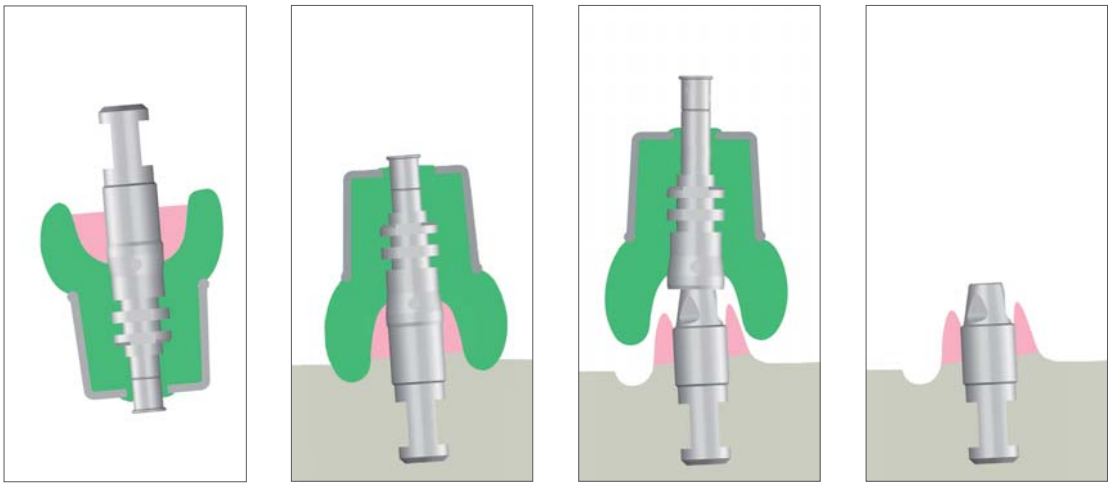
After the impression is taken, the Vario SR impression caps, open tray, are in the impression.

The Vario SR analogs corresponding to the diameters are attached to the Vario SR impression caps, closed tray, in the impression (note proper seating) in the dental laboratory. A screwdriver (hex) is used to hand-tighten the fixing screw.



Vario SR impression cap, open tray, with Vario SR analog

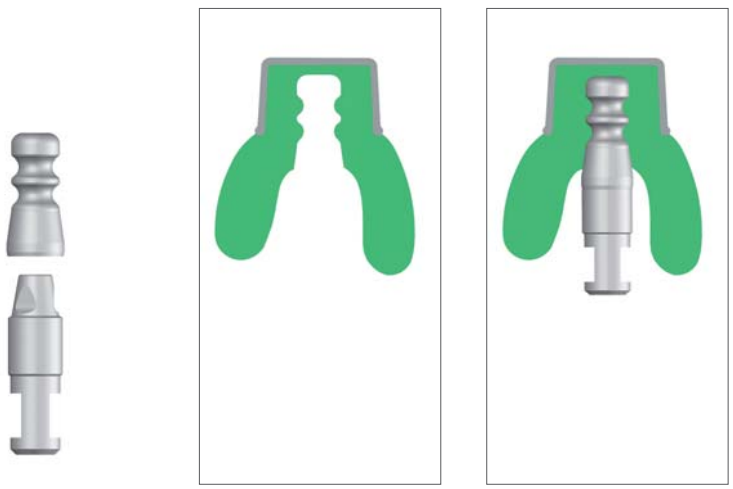
The impression is cast with suitable model material. After the cast material has cured, the Vario SR impression cap fixing screws are loosened and the impression removed.



TIP: We recommend that you fabricate the cast with a gingival mask. The surrounding gingiva is represented elastically and true to the situation especially for subgingival crown margins and restorations in esthetic areas. An optimal design of the crown contour is easier to achieve.

CAST FABRICATION WITH VARIO SR IMPRESSION CAP, CLOSED TRAY

After the impression is taken, the one-piece Vario SR impression caps, closed tray, are screwed together with the Vario SR analogs and repositioned in the impression in the dental laboratory. Do not use bonding material!



Vario SR impression cap, closed tray, with Vario SR analog

CONELOG®
VARIO SR ABUTMENTS

The impression is cast with appropriate cast material and the Vario SR impression caps may not loosen. After the cast material has cured, the impression is lifted off the cast and the impression caps are removed from the analogs.

TIP: We recommend that you fabricate the cast with a gingival mask. The surrounding gingiva is represented elastically and true to the situation especially for subgingival crown margins and restorations in esthetic areas. An optimal design of the crown contour is easier to achieve.

CAST FABRICATION FOR SINGLE TOOTH RESTORATIONS WITH THE CONELOG® LAB ANALOG

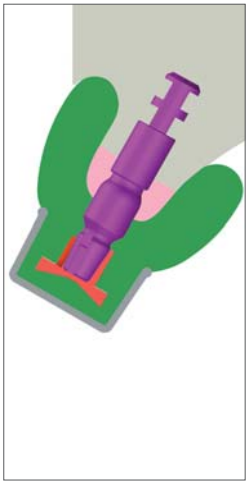
If the impression was taken without CONELOG® Vario SR abutment in the CONELOG® implant, the CONELOG® lab analog is used for cast fabrication. The CONELOG® lab analog is attached to the CONELOG® impression post, open or closed tray, and hand-tightened using a screwdriver (hex).

CONELOG® LAB ANALOG

ART. NO.	C3010.3800	C3010.4300	C3010.5000
			

NOTE
Taking the impression directly in the CONELOG® implant using a CONELOG® impression post, open and/or closed tray, requires that the cast be fabricated using a CONELOG® lab analog of the same color.

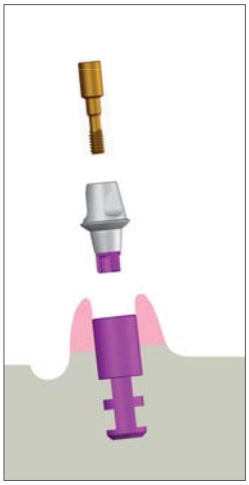
CONELOG® Impression post, open tray



CONELOG® Impression post, closed tray

After fabricating the cast, a straight or angled CONELOG® Vario SR abutment is placed in the CONELOG® lab analog based on the clinical situation and fixed by hand using a corresponding brown anodized CONELOG® lab screw (see also page 95).

The single crown is fabricated on the original CONELOG® Vario SR abutment.



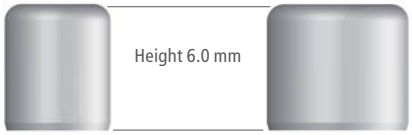
CONELOG®
VARIO SR ABUTMENTS

TEMPORARY RESTORATIONS

VARIO SR PROTECTION CAPS

Vario SR protection caps can be used for the initial restoration as the final prosthetic restoration is being fabricated. Vario SR protection caps are made of titanium alloy, are one piece, sterile packed and each available in 3.8/4.3 mm and 5.0 mm diameters.

ART. NO.		ARTICLE	IMPLANT Ø MM
J2568.4300		Vario SR protection cap	3.8/4.3
J2568.6000		Vario SR protection cap	5.0



Vario SR protection caps are screwed directly onto the CONELOG® Vario SR abutments (straight and angled) attached definitively to the CONELOG® implant. The caps are picked up with a screwdriver (hex) and screwed in hand-tightened.

NOTE
If an existing prosthesis is used as a temporary restoration, it must be hollow ground in the areas of the Vario SR protection caps. The prosthesis must not lie on the Vario SR protection caps and thus compromise implant healing by transferring mastication forces.

IMPORTANT NOTE
During intraoral use, products must be secured in general against aspiration and swallowing.

TEMPORARY BRIDGE RESTORATIONS VARIO SR TITANIUM CAPS

Vario SR titanium caps are attached to the already inserted Vario SR abutments (straight/angled). They are equipped with a retention surface on the outside for coating with plastic. The caps are made of titanium alloy and are each available in the 3.8/4.3 mm and 5.0 mm diameters.

NOTE
Vario SR titanium caps, bridge, have no antirotational mechanism and therefore are only suited for bridge restorations.

ART. NO.		ARTICLE	IMPLANT Ø MM
J2564.4301		Vario SR titanium cap, bridge, incl. Vario SR prosthetic screw	3.8/4.3
J2564.6001		Vario SR titanium cap, bridge, incl. Vario SR prosthetic screw	5.0
J4005.2004		Vario SR prosthetic screw, hex, M 2.0, yellow anodized	

Information about fabricating a temporary bridge restoration is available on page 100.

CONELOG®
VARIO SR ABUTMENTS

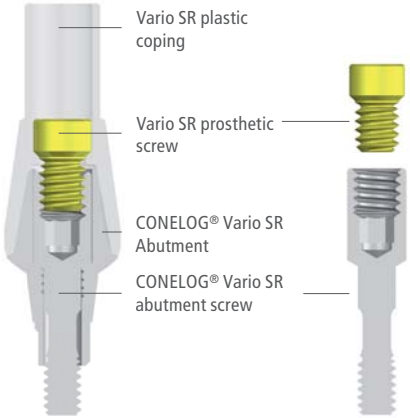
FABRICATION OF THE PROSTHETIC RESTORATION

To fabricate occlusally screw-retained restorations, various Vario SR prosthetic components are available that are attached to the CONELOG® Vario SR abutments (straight and angled) using the Vario SR prosthetic screw (M 2.0). A screwdriver (hex) is used to tighten the screws (see also information on page 81).

PROSTHETIC SCREW CONNECTION FOR STRAIGHT CONELOG® VARIO SR ABUTMENTS

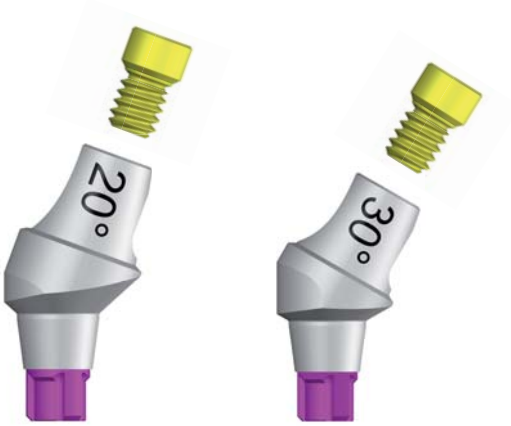
Straight CONELOG® Vario SR abutments are fixed in the implant using the CONELOG® Vario SR abutment screw. When inserting the superstructure, the Vario SR prosthetic screw is used to secure the Vario SR caps. The prosthetic screw engages in the thread in the head of the CONELOG® Vario SR abutment screw and fixes the cap to the abutment.

CONELOG® Vario SR abutment, straight



PROSTHETIC SCREW CONNECTION FOR ANGLED CONELOG® VARIO SR ABUTMENTS

Angled CONELOG® Vario SR abutments are fixed in the implant using the CONELOG® abutment screw. When inserting the superstructure, the Vario SR prosthetic screw is used to secure the Vario SR caps. The prosthetic screw engages in the thread in the head of the CONELOG® Vario SR abutment and fixes the cap to the abutment.



CONELOG® Vario SR abutment, angled

OPTIONAL FABRICATION OF THE SUPERSTRUCTURE DIRECTLY ON CONELOG® VARIO SR ABUTMENTS

BROWN ANODIZED LAB SCREWS

The superstructure (bridge or bar) can also be fabricated on the CONELOG® Vario SR abutment (straight or angled) directly. However, fabrication of a single crown restoration requires fabrication on the original CONELOG® Vario SR abutments (see also Impression-taking for Vario SR single crown restoration, page 85).

After fabricating the cast with CONELOG® lab analogs, the CONELOG® Vario SR abutment is set in the CONELOG® lab analog. In this case, we recommend the use of a brown anodized CONELOG® lab screw (hex) for fixation of the abutment in the CONELOG® lab analog. The abutment screw attached to the abutment is only used for final insertion in the implant.

CONELOG® VARIO SR ABUTMENT OVERVIEW

Straight, 20° und 30° angled abutments	Straight CONELOG® Vario SR abutments Ø 3.8/4.3 mm	Angled CONELOG® Vario SR abutments Ø 3.8/4.3 mm	Straight CONELOG® Vario SR abutments Ø 5.0 mm	Angled CONELOG® Vario SR abutments Ø 5.0 mm
				
Lab screws	CONELOG® Vario SR lab screw M 1.6 ART. NO. C4008.1600	CONELOG® Lab screw M 1.6 ART. NO. C4006.1601	CONELOG® Vario SR lab screw M 2.0 ART. NO. C4008.2000	CONELOG® Lab screw M 2.0 ART. NO. C4006.2001
				

CAUTION!
Only use the matching lab screw type!

CONELOG®
VARIO SR ABUTMENTS

CAST SUPERSTRUCTURE
VARIO SR PLASTIC COPINGS

To fabricate the prosthetic restoration, prefabricated burn-out Vario SR plastic copings are available for single crown, bridge and bar constructions. The wax-up (wax, plastic) is fabricated on the plastic copings directly. The wax-up is cast in a suitable alloy using the casting technique and can be ceramically veneered for single crown and bridge restorations.

VARIO SR PLASTIC COPINGS FOR CROWN RESTORATIONS ON STRAIGHT CONELOG® VARIO SR ABUTMENTS

ART. NO.		ARTICLE	IMPLANT Ø MM
J2563.4302*		Vario SR plastic coping, crown, with triple-surface antirotational mechanism for straight CONELOG® Vario SR abutments, burn-out (POM)	3.8/4.3
J2563.6002*		Vario SR plastic coping, crown, with triple-surface antirotational mechanism for straight CONELOG® Vario SR abutments, burn-out (POM)	5.0
J4005.2004		Vario SR prosthetic screw, hex, M 2.0, yellow anodized	

VARIO SR PLASTIC COPINGS FOR BRIDGE RESTORATIONS ON STRAIGHT AND ANGLED CONELOG® VARIO SR ABUTMENTS

ART. NO.		ARTICLE	IMPLANT Ø MM
J2563.4301		Vario SR plastic coping, bridge, for straight and angled CONELOG® Vario SR abutments, burn-out (POM)	3.8/4.3
J2563.6001		Vario SR plastic coping, bridge, for straight and angled CONELOG® Vario SR abutments, burn-out (POM)	5.0
J4005.2004		Vario SR prosthetic screw, hex, M 2.0, yellow anodized	

VARIO SR PLASTIC COPINGS FOR CROWN RESTORATIONS ON 20° AND 30° ANGLED CONELOG® VARIO SR ABUTMENTS

ART. NO.		ARTICLE	IMPLANT Ø MM
J2563.4303**		Vario SR plastic coping, crown, with single-surface antirotational mechanism for angled CONELOG® Vario SR abutments, burn-out (POM)	3.8/4.3
J2563.6003**		Vario SR plastic coping, crown, with single-surface antirotational mechanism for angled CONELOG® Vario SR abutments, burn out (POM)	5.0
J4005.2004		Vario SR prosthetic screw, hex, M 2.0, yellow anodized	

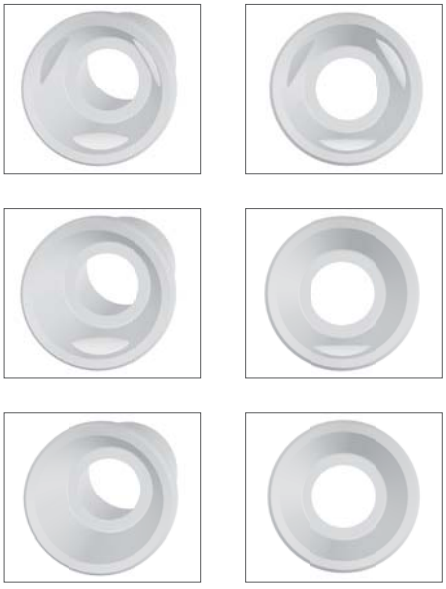
*Incompatible with angled Vario SR abutments. **Incompatible with straight Vario SR abutments.

VARIO SR ANTIROTATIONAL MECHANISMS

For **single crown restorations** on **straight** CONELOG® Vario SR abutments, plastic copings with **three antirotational surfaces** in the inner configuration are used.

For **single crown restorations** on **angled** CONELOG® Vario SR abutments, plastic copings with **one antirotational surface** are used.

For bridge and bar constructions on straight and angled CONELOG® Vario SR abutments, plastic copings with round inner configuration are used.



CAUTION!
On angled Vario SR abutments, the abutment screw channel opposes the antirotational surface. Due to different dimensions, care must be taken that the copings with antirotational mechanism grip in the milled antirotational mechanism of the abutment. The copings are marked on the outside accordingly.

EXAMPLE OF FABRICATING A FINAL BRIDGE RESTORATION

To fabricate a bridge restoration, Vario SR plastic copings, bridge, are set on the Vario SR analogs and fixed using the Vario SR prosthetic screw. The copings can be shortened occlusally by 5.0 mm.

Vario SR plastic copings, bridge, with
Vario SR prosthetic screw

WAX-UP

The framework is waxed up in the usual manner according to the design of the «reduced crown shape». Take care that adequate and uniform ceramic or plastic layer can be achieved for the veneering. The wax thickness over the plastic coping should be at least 0.3 mm. Do not mold over the delicate coping edge.

IMPORTANT NOTE
When burning out the casting muffle, swelling may occur due to the thermal expansion of the plastic and damage the investment compound in the area of the plastic coping. This can cause investment compound to be included in the casting metal. Therefore, a minimum wax thickness of 0.3 mm should be applied to the plastic coping. When heating, the wax softens first and gives the plastic enough space to expand.

CONELOG®
VARIO SR ABUTMENTS

The ideal framework form can be controlled with a previously prepared silicone index.

TIP: To prevent non-axial loads and over contouring in the posterior area, we recommend reducing wax-up to premolar size (Information about vertical dimensioning, see page 15).

EMBEDDING, CAST AND DEVESTMENT

The abutment is embedded according to the instruction manual of the muffle system used. We do not recommend the use of wax wetting agents. However, if wax wetting agents are used, they must be suitable for use with POM plastic components. When embedding, the correct placement of the wax-up in the casting muffle is of importance. Volume ratios and pin angles must be selected so that the required temperature for casting is achieved. This is particularly important for voluminous casts.

We recommend phosphate bound investment materials. The manufacturer's processing instructions must be observed and the mixing ratios and preheating times accurately observed. We recommend you do not use any quick heating processes (speed investment materials). The cast delay time must be kept as brief as possible.

After casting, the cast object must be slowly cooled to room temperature and the object gently devested. We recommend gentle devestment in an ultrasonic bath with waterjet or stripping.

After trimming, the cast object is prepared for ceramic or plastic veneering. The ceramic to be used must be compatible with the alloy (observe heat expansion coefficient). The occlusal surface should be designed based on the «Freedom in centric» concept.

INSERTION OF THE PROSTHETIC RESTORATION

The finished bridge restoration is transferred to the CONELOG® Vario SR abutments and fixed using the new unused Vario SR prosthetic screws. The tightening torque is 15 Ncm.

For hygiene and esthetic reasons, we recommend closing the transocclusal screw opening. To ensure that the Vario SR prosthetic screw can be removed again, the screw head is covered with some wax or gutta-percha and the screw channel closed with e.g. composite.

Clean and disinfect the prosthetic components prior to insertion. We recommend component sterilization (see also the «Preparation Instructions for the CAMLOG®/CONELOG® Implant System», Art. No. J8000.0032). The peri-implant hard and soft tissue situation must allow gapless insertion of the restoration.

CONELOG®
VARIO SR ABUTMENTS

BRIDGE CONSTRUCTIONS MADE OF PLASTIC
VARIO SR TITANIUM CAPS

Vario SR titanium caps are equipped with a retention surface on the outside for coating with plastic. The caps are made of titanium alloy and are each available in the 3.8/4.3 mm and 5.0 mm diameters.

NOTE
Vario SR titanium caps, bridge, have no antirotational mechanism and therefore are only suited for bridge restorations.

VARIO SR TITANIUM CAPS FOR BRIDGE RESTORATIONS ON STRAIGHT AND ANGLED CONELOG® VARIO SR ABUTMENTS

ART. NO.		ARTICLE	IMPLANT Ø MM
J2564.4301		Vario SR titanium cap, bridge, incl. Vario SR prosthetic screw	3.8/4.3
J2564.6001		Vario SR titanium cap, bridge, incl. Vario SR prosthetic screw	5.0
J4005.2004		Vario SR prosthetic screw, hex, M 2.0, yellow anodized	

A temporary bridge restoration can be fabricated directly on the CONELOG® Vario SR abutments (straight/angled) inserted in the implant or on the working model.

EXAMPLE OF FABRICATING A FINAL BRIDGE RESTORATION

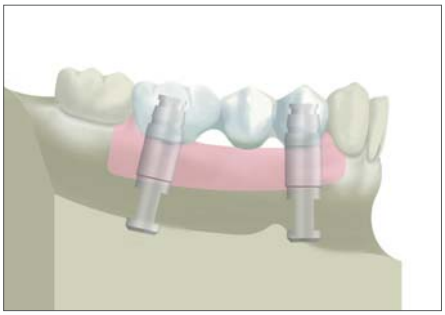
To fabricate a bridge restoration, Vario SR titanium caps, bridge, are set on the Vario SR analogs and fixed using the Vario SR prosthetic screw. The caps may be shortened occlusally by 5.0 mm up to and including the third chamfer.

Vario SR titanium cap, bridge, with Vario SR prosthetic screw

CAUTION!
Shorten extra-orally only!

IMPORTANT NOTE
During intraoral use, products must be secured in general against aspiration and swallowing.

The caps are then veneered and attached with suitable plastic in the usual manner.



INSERTION OF THE PROSTHETIC RESTORATION

The finished plastic bridge is transferred to the CONELOG® Vario SR abutments and fixed using the new unused Vario SR prosthetic screws. The tightening torque is 15 Ncm.

For hygiene and esthetic reasons, we recommend closing the transocclusal screw opening. To ensure that the Vario SR prosthetic screw can be removed again, the screw head is covered with some wax or gutta-percha and the screw channel closed with e.g. composite.

Clean and disinfect the prosthetic components prior to insertion. We recommend component sterilization (see also the «Preparation Instructions for the CAMLOG®/CONELOG® Implant System», Art. No. J8000.0032). The peri-implant hard and soft tissue situation must allow gapless insertion of the restoration.

CONELOG®
VARIO SR ABUTMENTS

HYBRID PROSTHETICS
LASER-WELDED BAR CONSTRUCTIONS
VARIO SR BASES FOR BAR

Vario SR bases for bar are made out of grade 4 titanium and are suitable for laser-welded bar constructions with prefabricated bar elements made out of identical material. The copings do not have an antirotational mechanism and are each available in the 3.8/4.3 mm and 5.0 mm diameters.

VARIO SR BASES FOR BAR FOR BAR CONSTRUCTIONS ON STRAIGHT AND ANGLED CONELOG® VARIO SR ABUTMENTS

ART. NO.		ARTICLE	IMPLANT Ø MM
J2570.4300		Vario SR base for bar, laser-weldable, incl. Vario SR prosthetic screw	3.8/4.3
J2570.6000		Vario SR base for bar, laser-weldable, incl. Vario SR prosthetic screw	5.0
J4005.2004		Vario SR prosthetic screw, hex, M 2.0, yellow anodized	

NOTE
Vario SR bases for bars have no antirotational mechanism and therefore are only suited for bar constructions.

TASKS OF A BAR RESTORATION

In implantological hybrid prosthetics, bar restorations represent stable implant-connecting constructions; a hybrid prosthesis can be securely anchored.

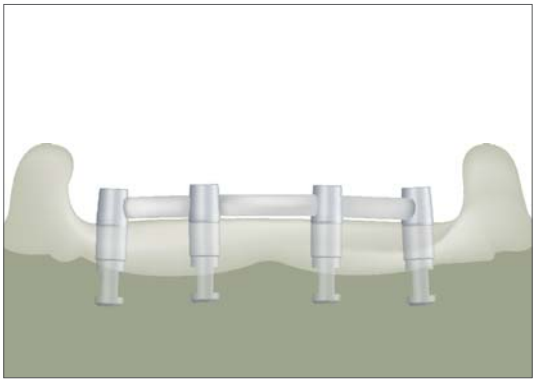
- Protecting the prosthesis against shearing and lifting forces
- Shear distribution
- Stabilization and primary splinting of the implants
- Resilience compensation through degrees of freedom

FABRICATING A BAR CONSTRUCTION

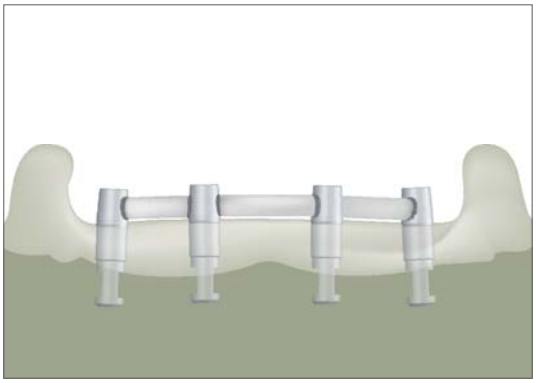
To fabricate a bar construction, Vario SR bases for bar are set on the Vario SR analogs. A screwdriver (hex) is used to screw in the Vario SR prosthetic screw hand-tight.

Vario SR base for bar with Vario SR prosthetic screw

The bar elements are cut accordingly and in consideration of a joining gap that is as small as possible fitted between the Vario SR bases for bar.

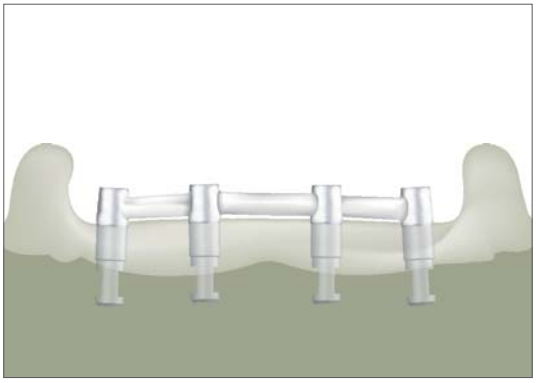


After assembling all the components, the bar segments are welded together with the bases for bar under sufficient argon gas purging and the bar is polished to a high gloss.



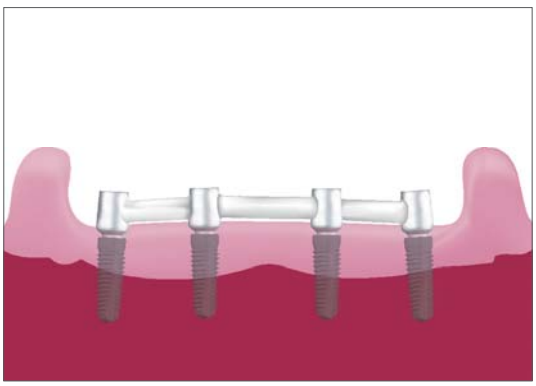
IMPORTANT NOTE ABOUT LASER WELDING
Blue discoloration on the welds must be avoided. These points to insufficient purging with argon gas and to oxygen uptake of the titanium. Brittleness and associated weakness in the weld is the result. Observe the operating instructions of the laser devices used!

After completing the bar construction, the final bar prosthesis with base reinforcement made out of metal is fabricated in the usual manner. The teeth are positioned based on the principle of modern complete dentures. An existing full prosthesis can also be converted into a bar-retained prosthesis with suitable bar matrices.



IMPORTANT NOTE
The matrix should be placed before fabrication of the prosthesis with a suitable relief wire. Only then is vertical translation of the prosthesis on the bar ensured.

INSERTING THE BAR CONSTRUCTION
The finished, cleaned and disinfected bar construction is transferred to the CONELOG® Vario SR abutments and with new unused Vario SR prosthetic screws, fixed with 15 Ncm using a screwdriver (hex). The full prosthesis is then inserted and checked for proper fit.



CONELOG®
BAR ABUTMENT

INTRODUCTION

In implantological hybrid prosthetics, bar restorations represent stable implant-connecting designs; a hybrid prosthesis can be securely anchored.

TASKS OF A BAR RESTORATION

- Protecting the prosthesis against shearing and lifting forces
- Shear distribution
- Stabilization and primary splinting of the implants
- Resilience compensation through degrees of freedom

The CONELOG® bar abutment offers extensive options for fabrication of prefabricated and custom-milled bars because of the wide variety of components available:

PREFABRICATED TITANIUM OR GOLD BAR

Laser-welded bar version with prefabricated titanium bar bases and bar elements or soldered bar version with prefabricated gold bar bases and bar elements.

CUSTOM-CAST/MILLED BAR

Cast bar version with prefabricated bar bases and bar elements made of burn-out plastic for solid casting technology.

BONDED BAR CONSTRUCTION (PASSIVE FIT)

Bonded bar construction with prefabricated bar sleeves made of burn-out plastic for casting technology and titanium bonding base. The Passive Fit System provides the option of fixing cast bars on the implants that are absolutely tension-free.

PRODUCT DESCRIPTION

CONELOG® bar abutments are available for CONELOG® implant diameters 3.3/3.8/4.3/5.0 mm in various gingival heights.

CONELOG® BAR ABUTMENT FOR IMPLANT DIAMETER 3.3 MM

ART. NO.	C2255.3310	C2255.3325
		
GH mm	1.0	2.5

CONELOG® BAR ABUTMENT FOR IMPLANT DIAMETER 3.8 MM

ART. NO.	C2255.3810	C2255.3825	C2255.3840
			
GH mm	1.0	2.5	4.0

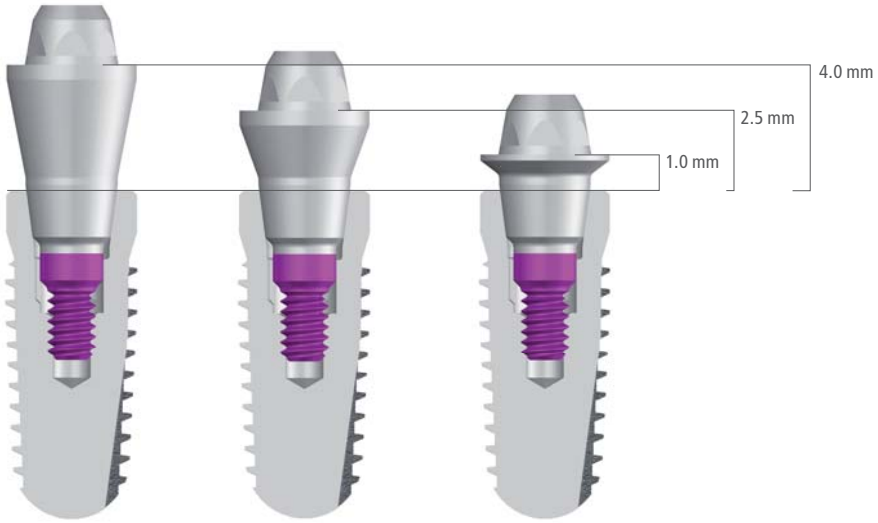
CONELOG® BAR ABUTMENT FOR IMPLANT DIAMETER 4.3 MM

ART. NO.	C2255.4310	C2255.4325	C2255.4340
			
GH mm	1.0	2.5	4.0

CONELOG® BAR ABUTMENT FOR IMPLANT DIAMETER 5.0 MM

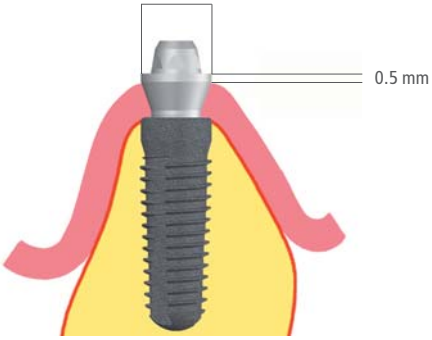
ART. NO.	C2255.5010	C2255.5025	C2255.5040
			
GH mm	1.0	2.5	4.0

GH: Gingival height



Gingival heights from the implant shoulder support to the bar abutment plateau

Prosthetic diameter of the CONELOG® Bar abutments = 4.3 mm



The bar abutment plateau should be approx. 0.5 mm supragingival.

The prosthetic diameter of all CONELOG® bar abutments (Ø 3.3/3.8/4.3/5.0 mm) is 4.3 mm.

PROSTHETIC SCREW FOR BAR ABUTMENT, HEX

All bar bases are attached with prosthetic screws for bar abutment, hex, to the CONELOG® bar abutments. New unused prosthetic screws are used for final insertion.

ART. NO.	J4005.1602
	
Thread	M 1.6 for bar abutment Ø 3.3/3.8/4.3/5.0 mm
Def. torque for insertion of the bar framework: **15 Ncm**	

Abutments must be retightened to the same torque after about five minutes to reach the maximum retaining screw tension. This prevents screws from loosening. The prosthetic screws are only hand-tightened on the working cast.

CONELOG®
BAR ABUTMENT

CONELOG® IMPRESSION TAKING OPTIONS

After successful implant insertion, the impression can be taken in two versions:

IMPRESSION TAKING OVER CONELOG® BAR ABUTMENTS:
Impression taking after final insertion of the CONELOG® bar abutments with impression post for bar abutment. The cast is then fabricated with bar-lab analogs/soldering aids.

IMPRESSION TAKING IN THE CONELOG® IMPLANT:
Impression taken in the CONELOG® implant with CONELOG® impression post, open or closed tray, before insertion of CONELOG® bar abutments. The cast is then fabricated with CONELOG® lab analogs. See also pages 18–28.

IMPRESSION TAKING OVER CONELOG® BAR ABUTMENTS

INSERTION OF CONELOG® BAR ABUTMENTS

After successful implant insertion and determination of the appropriate gingival height, the CONELOG® bar abutments are inserted into the CONELOG® implants.

The abutments are inserted into the driver for CONELOG® bar abutments. A screw integrated in the instrument secures the abutment. The screw is tightened by hand.

Driver for CONELOG® Bar abutments Ø 3.3/3.8/4.3/5.0 mm

Bar abutment/instrument connection

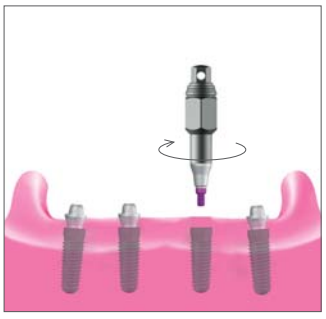
ART. NO.		ARTICLE	MATERIAL
C5300.0020		**Driver for CONELOG® Bar abutments,** for Ø 3.3/3.8/4.3/5.0 mm	Stainless steel

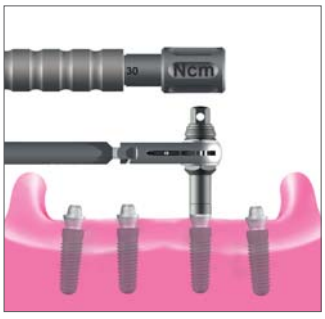
The CONELOG® bar abutments are inserted into the previously cleaned CONELOG® implants and the torque wrench is then used to tighten the abutments definitely in the implants based on the specified tightening torque.

TIGHTENING TORQUE FOR CONELOG® BAR ABUTMENTS

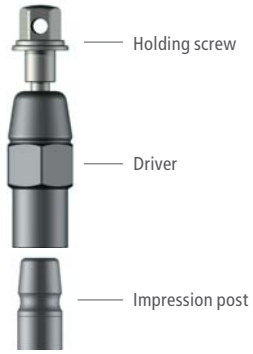
Ø 3.3 mm	20 Ncm
Ø 3.8/4.3/5.0 mm	30 Ncm

CONELOG® abutments must be retightened with the same torque after about five minutes to reach the maximum screw tension. This prevents screws from loosening to the extent possible.





For impression taking, the impression post for the CONELOG® bar abutment is inserted into the driver for impression posts and healing caps for CONELOG® bar abutments.



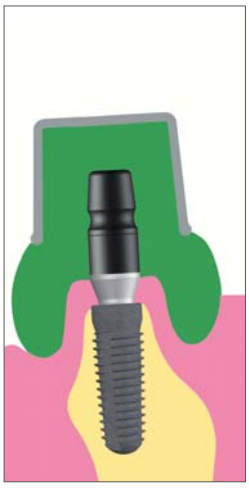
Driver for impression posts and healing caps for CONELOG® Bar abutments

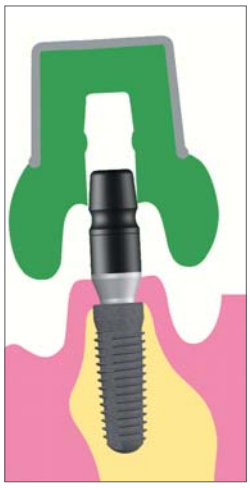
Mounted impression post

ART. NO.		ARTICLE	MATERIAL
C5300.0027		**Driver for impression posts and healing caps for CONELOG® Bar abutments,** for Ø 3.3/3.8/4.3/5.0 mm	Stainless steel
C2130.4300		**Impression post for CONELOG® bar abutment,** for Ø 3.3/3.8/4.3/5.0 mm	Titanium alloy

The impression post is then screwed onto the CONELOG® bar abutment fitted in the CONELOG® implant.

A closed tray is suitable for impression taking. The impression is then taken with silicone or polyether impression material.





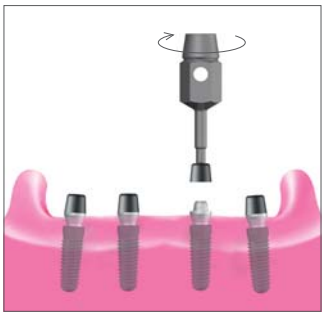
After removing the impression, the impression posts remain on the CONELOG® bar abutments.

CONELOG®
BAR ABUTMENT

The impression posts are then reattached with the driver for impression posts and healing caps for CONELOG® bar abutments and unscrewed from the bar abutment.

The bar abutments remain in the implants. The impression posts are handed over to the dental laboratory.

The screwdriver (hex) is then used to screw healing caps for bar abutments onto the bar abutments based on the implant diameters used. The healing cap for bar abutment protects the bar abutment and at the same time assumes the function of a healing cap.

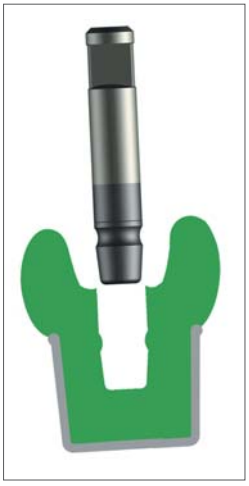


ART. NO.		ARTICLE	MATERIAL
C2030.4300		**Healing cap for CONELOG® bar abutment,** for Ø 3.3/3.8/4.3/5.0 mm	Titanium alloy

CAST FABRICATION

In the dental laboratory, the impression posts for bar abutments are tightened by hand to the bar lab analogs/soldering aids and repositioned in the impression.

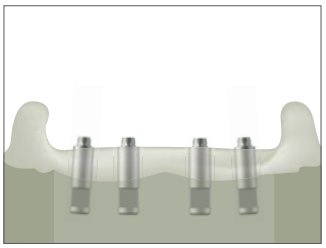
Impression post for bar abutment with bar lab analog/soldering aid



ART. NO.		ARTICLE	MATERIAL
C3020.4300		**Bar lab analog/soldering aid for CONELOG® bar abutments,** for Ø 3.3/3.8/4.3/5.0 mm	Titanium alloy

The cast is fabricated in the usual manner with suitable material.

After the cast material has cured and the impression removed, the impression posts for bar abutments remain on the bar lab analogs/soldering aids. The impression posts are unscrewed from the bar lab analogs/soldering aids. Based on the planning, the bars are fabricated with the intended bar bases.



Finished working cast with bar lab analogs/soldering aids

CONELOG®
BAR ABUTMENT

AFTER IMPRESSION TAKING IN THE CONELOG® IMPLANT

INSERTING THE CONELOG® BAR ABUTMENTS IN THE WORKING CAST

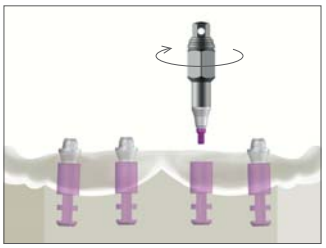
The dental technician selects the appropriate CONELOG® bar abutments according to the CONELOG® implant diameter used (note color-coding) and the specific gingival heights and inserts them into the CONELOG® lab analogs.

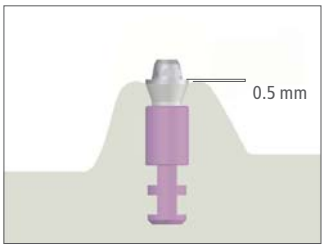
The CONELOG® bar abutments are inserted into the driver for bar abutments. A screw integrated in the instrument secures the abutment. The screw is tightened by hand.

Driver for bar abutment
Ø 3.3/3.8/4.3/5.0 mm

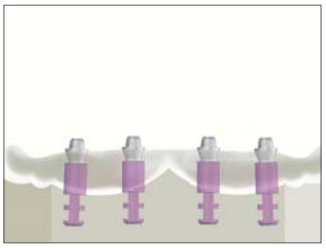
The driver is used to tighten the CONELOG® bar abutments by hand. The bar abutment plateau should be approx. 0.5 mm supragingival.

IMPORTANT NOTE
The bar abutments must not be modified!

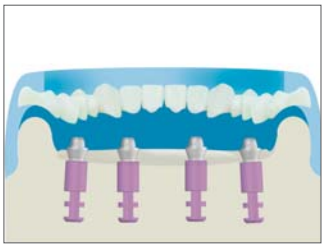




The bar is fabricated on the cast. A previously prepared silicone index is used to virtually represent the space available in the planning and fabrication of the bar construction.



Finished working cast with
CONELOG® Bar abutments



Working cast with
silicone index

FABRICATION OF THE BAR CONSTRUCTION
CAST BAR CONSTRUCTIONS

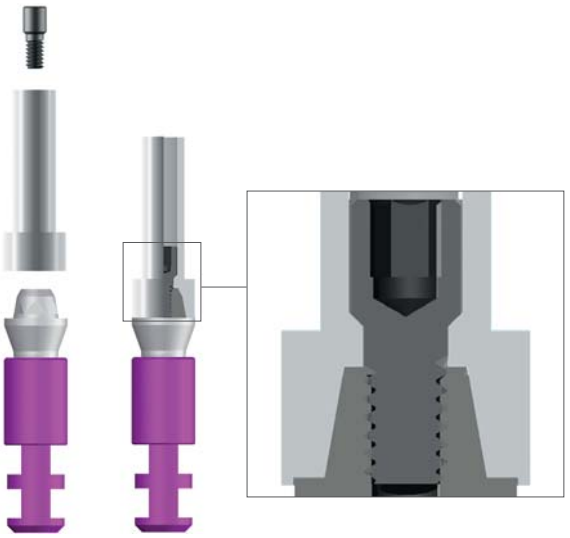
Various bar bases are available for bar fabrication using casting technology:

FULL CASTING TECHNIQUE
BASE FOR BAR ABUTMENT, BURN-OUT

Fabrication of a cast bar construction with prefabricated bar base made of burn-out plastic (POM) for full casting technique. A prosthetic screw for bar abutment (hex) based on the diameter is used to fix the bar base on the CONELOG® bar abutment.

CAUTION!
To avoid deforming the bar base, only tighten the prosthetic screw lightly by hand.

The bar base can be shortened occlusally to the height of the screwed prosthetic screw. The overall height of the base is 14 mm.



Base for bar abutment, burn-out, with prosthetic screw

Screw-retained base on the CONELOG® Bar abutment

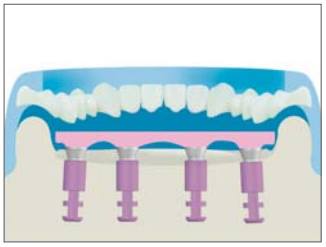
ART. NO.		ARTICLE	MATERIAL
C2257.3300		**Base for CONELOG® bar abutment, burn-out,** for Ø 3.3/3.8/4.3/5.0 mm	POM

POM: Polyoxymethylene

EXAMPLE:
WORKING CAST WITH CONELOG®
LAB ANALOGS (TITANIUM ALLOY).

WAX-UP
The bar wax-up is created based on the planning on the burn-out bar base directly. The wax thickness over the plastic coping should be at least 0.3 mm. Do not cover the delicate edge of the base with wax. Prefabricated bar components made of wax / plastic can also be used to fabricate a pre-milled bar construction.

IMPORTANT NOTE
When burning out the casting muffle, swelling may occur due to the thermal expansion of the plastic and damage the investment compound in the area of the plastic base. This can cause investment compound to be included in the casting metal. Therefore, a minimum wax thickness of 0.3 mm should be applied to the plastic base. When heating, the wax softens first and gives the plastic enough space to expand.



Example: Milled bar construction

CONELOG®
BAR ABUTMENT

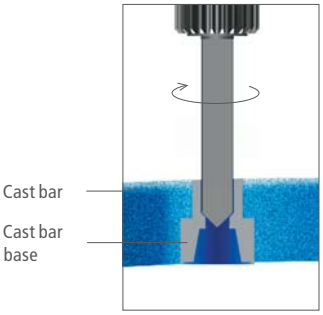
EMBEDDING, CAST AND DEVESTMENT

The abutment is embedded according to the instruction manual of the muffle system used. We do not recommend the use of wax wetting agents. However, if wax wetting agents are used, it must be suitable for use with POM plastic components. When embedding, the correct placement of the wax-up in the casting muffle is of importance. Volume ratios and pin angles must be selected so that the required temperature for casting is achieved. This is particularly important for voluminous casts. We recommend phosphate bound investment materials. The manufacturer's processing instructions must be observed and the mixing ratios and preheating times accurately observed. We recommend you do not use any quick heating processes (speed investment materials). The cast delay time must be kept as brief as possible.

After casting, the cast object must be slowly cooled to room temperature and the object gently devested. We recommend gentle devestment in an ultrasonic bath with waterjet or stripping.

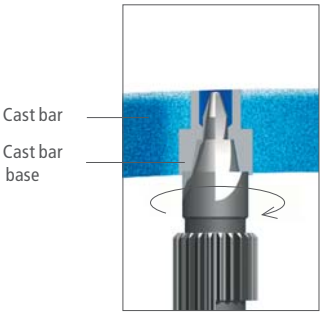
After casting, suitable reworking reamers are available to remove/smooth out casting residues for reworking the screw seat and the shoulder contact area to the CONELOG® bar abutment.

Reworking reamer, for base for bar abutment, for the screw seat Ø 3.3/3.8/4.3/5.0 mm



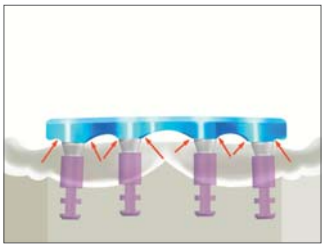
Reaming out the screw channel of the cast bar base

Reworking reamer, for base for bar abutment, for the plane surface/ cone seat Ø 3.3/3.8/4.3/5.0 mm



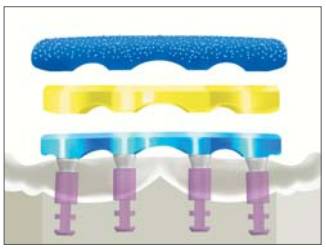
Reaming out the inner cone and plane surface of the cast bar base

After trimming the bar, it is checked for a precision fit. Good hygiene capacity must be ensured. A distance of min. 2 mm to the gingiva must be maintained to prevent insufficient cleaning and associated changes to the mucous membrane.



Example: Milled bar construction

The secondary framework, e.g. electroplating technique, is then fabricated.



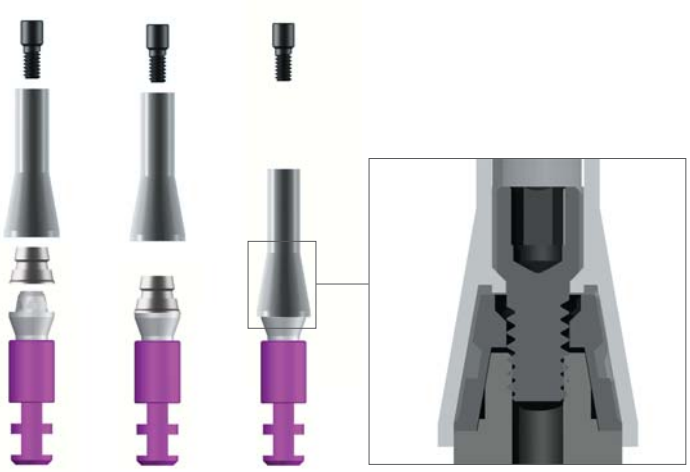
Example: Milled bar construction with secondary framework using the electroplating technique and tertiary structure

INSERTING THE BAR CONSTRUCTION

The CONELOG® bar abutments are transferred from the working cast to the CONELOG® implants and screwed in definitely with the prescribed torque. The finished bar construction is transferred to the CONELOG® bar abutments and fixed definitely with 15 Ncm with new unused prosthetic screws, using a screwdriver (hex). The newly created full denture is then inserted and checked for proper fit.

SLEEVE FOR TITANIUM BONDING BASE BURN-OUT (PASSIVE FIT)

Cast bar version with prefabricated bar sleeve made of burn-out plastic (POM) for full casting technique and titanium bonding base as a retaining element for the implant. The Passive Fit System makes it possible to fabricate cast bars absolutely tension-free. For bar fabrication, the bar sleeve is placed over the titanium bonding base. After completing the bar, it is bonded to the implants with the titanium bonding bases. The plastic sleeve of the bar base can be shortened occlusally to the height of the prosthetic screw. The overall height of the plastic sleeve is 14 mm.



Sleeve for titanium bonding base, burn-out, bondable (passive fit)

ART. NO.		ARTICLE	MATERIAL
C2260.3300		**Titanium bonding base for CONELOG® bar abutment, passive fit,** for Ø 3.3/3.8/4.3/5.0 mm	Titanium alloy
C2261.3300		**Sleeve for titanium bonding base, passive fit,** burn-out, for Ø 3.3/3.8/4.3/5.0 mm	POM

POM: Polyoxymethylene

EXAMPLE:
WORKING CAST WITH CONELOG® LAB ANALOGS (TITANIUM ALLOY).

WAX-UP

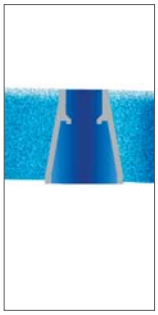
The bar wax-up is created based on the planning on the burn-out bar base directly. The wax thickness over the plastic coping should be at least 0.3 mm. Do not cover the delicate edge of the base with wax. Prefabricated bar components made of wax / plastic can also be used to fabricate a pre-milled bar construction.

Embedding, casting and devestment happen as described on page 112 «BASE FOR BAR ABUTMENT, BURN-OUT».

CONELOG®
BAR ABUTMENT

TRIMMING

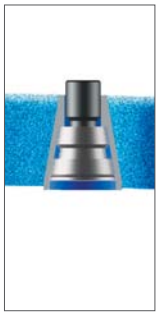
After devestment and cleaning of the cast, the internal fixation edges (screw seat) are removed from the bar sleeves with a round bur (Ø 2.4 mm). The prosthetic screw must slide lightly through the bar sleeve. The final screw seat is on the titanium bonding base.



Cast bar construction

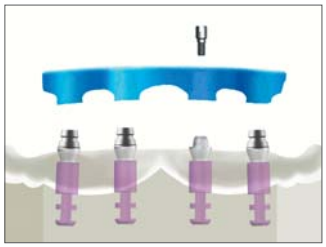
Removing the screw seat

Checking the screw mobility

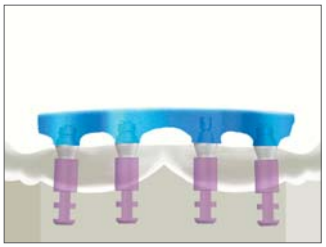


Fit of the bonding base

After trimming, prosthetic screws are used to attach the titanium bonding bases on the cast. The bar is placed on the titanium bonding bases and the fit checked.



If the bar is seated tension-free on the cast, it can then be bonded to the titanium bonding bases after the try-in in the mouth.



BONDING THE CAST BAR TO THE TITANIUM BONDING BASES

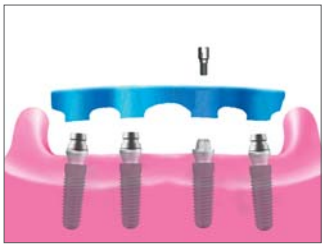
After completing the bar framework, the CONELOG® bar abutments are transferred from the cast to the implants and screwed in by hand.

The titanium bonding bases are placed on the CONELOG® bar abutments and with the prosthetic screw, screwed on by hand.

Insertion of CONELOG® Bar abutments

Placing the titanium bonding bases

The bar framework is then placed on the titanium bonding bases and the fit checked. The bar must be placed on the titanium bonding bases tension-free.



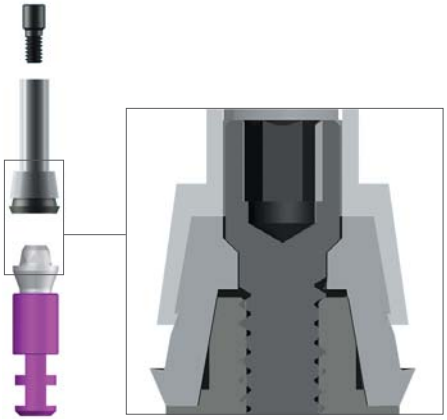
The bonding surfaces of the bar framework and titanium bases are then conditioned based on the manufacturer's specifications. We recommend carefully sandblasting the bonding surfaces before bonding. When bonding, care should be taken that the prosthetic screw does not come into contact with the bonding material. We recommend covering the internal hex of the screw head with wax. After the bonding material has cured, the prosthetic screws are loosened, the bar removed from the CONELOG® bar abutments, the excess bonding material carefully removed and the bar abutments removed. The new full denture is then fabricated on the working cast.

INSERTING THE BAR CONSTRUCTION

The CONELOG® bar abutments are transferred from the working cast to the CONELOG® implants and screwed in with the prescribed torques. The finished bar construction is transferred to the CONELOG® bar abutments and fixed definitely with new unused prosthetic screws, using a screwdriver (hex) with 15 Ncm. The newly created full denture is then inserted and checked for proper fit.

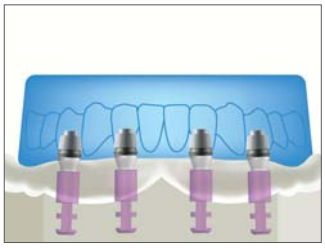
CAST-ON TECHNIQUE
BASE FOR BAR ABUTMENT, CAST-ON

Cast bar version with prefabricated bar base made of high-melting cast-on alloy and burn-out plastic sleeve (POM) for cast-on technique. A prosthetic screw for bar abutment (hex) based on the diameter is used to fix the bar base on the CONELOG® bar abutment. The plastic sleeve of the bar base can be shortened occlusally to the height of the prosthetic screw. The overall height of the base is 13 mm.



Base for bar abutment, cast-on

Setting up the bar bases



Shortened bar bases

ART. NO.		ARTICLE	MATERIAL
C2263.4300		**Base for CONELOG® bar abutment, cast-on,** for Ø 3.3/3.8/4.3/5.0 mm, noble metal weight approx. 0.48 g	Cast-on gold alloy/POM

POM: Polyoxymethylene

WAX-UP

The bar wax-up is created based on the planning on the burn-out plastic sleeve and bar base directly. The wax thickness over the plastic sleeve should be at least 0.3 mm. The bar base consists of a non-oxidizing alloy. Do not cover the fine gold margin of the base with wax. Prefabricated bar components made of wax/plastic can also be used to fabricate a pre-milled bar construction.

CAUTION!
Do not cover the fine gold margin of the bar base with wax. This can lead to a surplus of cast-on alloy on or over the margin on the implant shoulder support.

CONELOG®
BAR ABUTMENT

After wax-up of the bar framework, a suitable agent must be used to clean the fine gold margin and the area of the implant shoulder support of separating medium and wax particles (e.g. with a cotton swab soaked in alcohol).

EMBEDDING AND CASTING

The abutment is embedded according to the instruction manual of the muffle system used. We do not recommend the use of wax wetting agents. The fine film from the agent can lead to a surplus of cast-on alloy on the margin or on the implant shoulder support. When embedding, the correct placement of the wax-up in the casting muffle is of importance. Volume ratios and pin angles must be selected so that the required temperature for formation of a metallic connection is achieved. This is particularly important for voluminous casts.

The investment material must be matched with the cast-on alloy and the casting alloy used. We recommend phosphate bound investment materials. The manufacturer›s processing instructions must be observed and the mixing ratios and preheating times accurately observed. We recommend you do not use any investment materials for the quick heating processes (speed investment materials). The cast delay time must be kept as brief as possible.

INSTRUCTIONS FOR THE CAST-ON ALLOYS

The casting alloy may not exceed the liquidus temperature of 1350°C (2462°F) in its melting range. The melting range of the high-melting cast-on gold alloy lies between 1400°C–1490°C (2552°F–2714°F).

The casting alloy must be highly gold-bearing in its components and be compatible with the high-melting cast-on gold alloy. Observe the instructions of the alloy manufacturer.

The use of other casting alloys is not recommended. Components of an unsuitable alloy can lead to phases with reduced corrosion resistance, less stability or a low melting range thanks to «diffusion processes» in the border zone «casting alloy/cast-on alloy».

DEVESTMENT

After casting, the cast object must be slowly cooled to room temperature and the object gently devested.

IMPORTANT NOTE
Never use sandblasting to devest the cast; this would destroy the precise fit on the CONELOG® bar abutment shoulder (precision fit reduced, poor margin fit)!

We recommend gentle devestment in an ultrasonic bath with waterjet or stripping.

CASTING QUALITY

If the cast object exhibits casting defects after devestment such as incomplete effluence or casting fins/bubbles over the margin onto the implant shoulder support, the work should be repeated. The precision of the prefabricated bar base is severely affected and also the long-term success of the prosthetic restoration. The bar framework must be seated tension-free on the CONELOG® bar abutments.

The secondary framework, e.g. electroplating technique, is then fabricated.

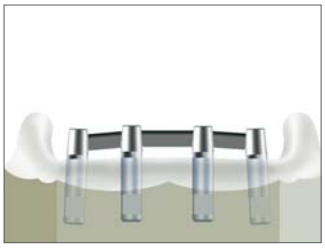
INSERTING THE BAR CONSTRUCTION

The CONELOG® bar abutments are transferred from the working cast to the CONELOG® implants and screwed in with the prescribed torques. The finished bar construction is transferred to the CONELOG® bar abutments and fixed with new unused prosthetic screws, using a screwdriver (hex) with 15 Ncm. The newly created full denture is then inserted and checked for proper fit.

LASER-WELDED BAR CONSTRUCTION
BASE FOR BAR ABUTMENT, LASER-WELDABLE

Laser-welded bar construction with prefabricated bar bases made of pure titanium (titanium grade 4). A prosthetic screw for bar abutment (hex) based on the diameter is used to fix the bar base on the CONELOG® bar abutment. The height of the bar base is 5.3 mm.

Setting up the bar bases



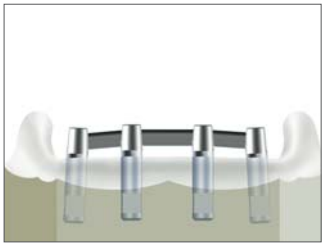
Bar bases with fitted prefabricated bar components made of pure titanium

ART. NO.		ARTICLE	MATERIAL
C2262.4300		**Base for CONELOG® bar abutment, laser-weldable,** for Ø 3.3/3.8/4.3/5.0 mm	Titanium Grade 4

EXAMPLE:
WORKING CAST WITH BAR LAB ANALOGS/SOLDERING AIDS FOR BAR ABUTMENTS (STAINLESS STEEL).

The bar elements are cut accordingly and in consideration of a joining gap that is as small as possible fitted between the bar bases.

After assembling all the components, the bar segments are welded together with the bar bases under sufficient argon gas purging and the bar is polished to a high gloss. The bar must be seated tension-free on the CONELOG® bar abutments.



IMPORTANT NOTE ABOUT LASER WELDING
Blue discoloration on the welds must be avoided. These points to insufficient purging with argon gas and to oxygen uptake of the titanium. Brittleness and associated weakness in the weld is the result. Observe the operating instructions of the laser devices used!

After completing the bar construction, the final bar prosthesis with base reinforcement out of metal is fabricated in the usual manner. The teeth are positioned based on the principle of modern complete dentures. An existing full denture can also be converted into a bar-retained prosthesis with suitable bar matrices.

IMPORTANT NOTE
The matrix should be placed before fabrication of the prosthesis with a suitable relief wire. Only then is vertical translation of the prosthesis on the bar ensured.

CONELOG®
BAR ABUTMENT

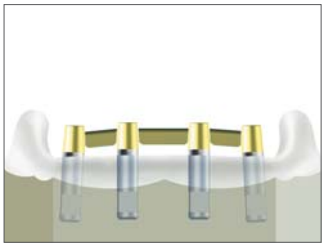
INSERTING THE BAR CONSTRUCTION

The CONELOG® bar abutments are transferred from the working cast to the CONELOG® implants and screwed in with the prescribed torques. The finished bar construction is transferred to the CONELOG® bar abutments and fixed with new unused prosthetic screws, using a screwdriver (hex) with 15 Ncm. The newly created full denture is then inserted and checked for proper fit.

SOLDERED BAR CONSTRUCTION
BASE FOR BAR ABUTMENT, SOLDERABLE

Soldered bar construction with prefabricated bar bases made of solderable gold alloy. A prosthetic screw for bar abutment (hex) is used to fix the bar base on the CONELOG® bar abutment. The height of the bar base is 5.3 mm.

Setting up the solderable bar bases

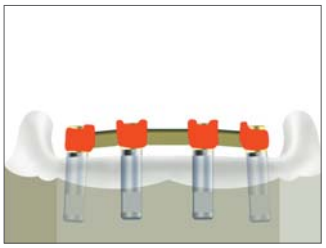


Bar bases with fitted prefabricated bar components made of solderable gold alloy

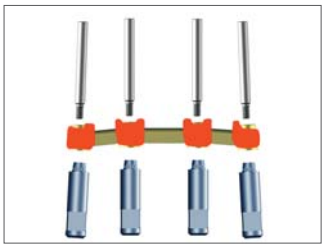
ART. NO.		ARTICLE	MATERIAL
C2258.4300		**Base for CONELOG® bar abutment, solderable,** for Ø 3.3/3.8/4.3/5.0 mm	Solderable gold alloy

EXAMPLE:
WORKING CAST WITH BAR LAB ANALOGS/SOLDERING AIDS FOR BAR ABUTMENT (STAINLESS STEEL).

The bar elements are cut accordingly and in consideration of a joining gap that is as small as possible fitted between the bar bases. The bar components are mounted to residue-free burn-out plastic, the prosthetic screws loosen after curing and the bar lifted off the cast. Bar lab analogs/soldering aids (stainless steel) are inserted in the bar bases and hand tightened with screws, hex, for bar abutments (thread M 1.6).



Fixed bar components



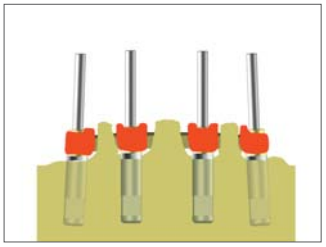
Bar lab analogs/soldering aids with bar and screws, hex, for bar abutment

NOTE
The instruction manuals of the soldering material manufactures must be observed!

ART. NO.		ARTICLE	MATERIAL
J4005.1610		**Screw, hex, for bar abutment,** for impression taking open tray and for soldering aid, thread M 1.6, for Ø 3.3/3.8/4.3/5.0 mm	Stainless steel

With the bar prepared for soldering, a soldering model is fabricated in the conventional manner.

The soldering is carried out according to the instructions of the soldering material and solder manufacturers. To avoid deformation of the soldering model, we recommend preheating the soldering model in the preheating furnace at approx. 500–600°C (932–1112°F). The plastic burns uniformly by doing so. After preheating the model in the furnace, the embedded bar can be soldered. Then allow the soldering model to cool to room temperature. The bar is devested in an ultrasonic bath and then cleaned of oxides and flux residues in an acid bath.

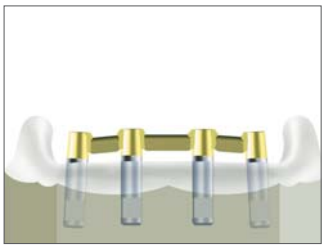


Fabricating the soldering model

IMPORTANT NOTE
Never use sandblasting to devest the bar; this would destroy the precise fit of the bar base on the CAMLOG® bar abutment shoulder!

TIP: To protect the edges when trimming/polishing, the bar bases can be attached to bar lab analogs/soldering aids.

The finished bar must be seated tension-free on the CONELOG® bar abutments.



Finished bar

After completing the bar construction, the final bar prosthesis with base reinforcement out of metal is fabricated in the usual manner. The teeth are positioned based on the principle of modern complete dentures. An existing full denture can also be converted into a bar-retained prosthesis with suitable bar matrices.

IMPORTANT NOTE
The matrix should be placed before fabrication of the prosthesis with a suitable relief wire. Only then is vertical translation of the prosthesis on the bar ensured.

INSERTING THE BAR CONSTRUCTION

The CONELOG® bar abutments are transferred from the working cast to the CONELOG® implants and screwed in with the prescribed torques. The finished bar construction is transferred to the CONELOG® bar abutments and fixed with new unused prosthetic screws, using a screwdriver (hex) with 15 Ncm. The newly created full denture is then inserted and checked for proper fit.

CONELOG®
BAR ABUTMENT

RELINING OF A BAR-SUPPORTED FULL DENTURE

If relining is necessary to retain the function of a bar-supported full denture, the holding pins for bars can be used.

The holding pin for bars is used exclusively to attach a bar during the relining impression taking for an indirect relining. The holding pin for bars holds the bar in the relining impression. It is not necessary to block out the bar in the mouth; it is easily carried out on the relining model.

ART. NO.		ARTICLE	MATERIAL
C2256.1600		**Holding pin for CONELOG® bar abutment/ CONELOG® bar lab analog,** yellow, (4 units), for thread M 1.6, for Ø 3.3/3.8/4.3/5.0 mm	POM

The holding pin for bars is for single use only and must be disinfected before use (no sterilization). See also the "Preparation Instructions for the CAMLOG®/CONELOG® Implant System», Art. No. J8000.0032.

PROCESSING

PREPARATION OF THE RELINING IMPRESSION TAKING

The bar-supported prosthesis is removed from the mouth. A screwdriver (hex) is used to loosen and remove the prosthetic screws from the CONELOG® bar abutments.

Take measures to protect against aspiration!

IMPORTANT NOTE
During intraoral use, products must be secured in general against aspiration and swallowing.

INSERTING THE HOLDING PINS FOR BARS

A screwdriver (hex) is used to grab the holding pins for bars and to push them into the screw openings. Limited friction between the screwdriver and the holding pin for bars prevents loosening during application. The screwdriver can then be easily removed. The bar is then fixed with the holding pins for bars in the patient's mouth. It is important to check (e.g. occlusally pressing with a finger) the proper fit of all applied holding pins for bars just before taking the impression. Blocking out the bar is unnecessary.

IMPRESSION TAKING

The relining impression for bar-supported prosthesis can be taken as usual. Make sure that the impression material fills in under the bar component completely.

The prosthesis impression can be removed after the prescribed setting time of the impression material. The bar incl. the holding pins for bars remains in the prosthesis impression surrounded by impression material.

PREPARING AND FABRICATING THE RELINING MODEL

The bar lab analog/soldering aid is used. It is inserted into the bar base and holds with the friction of the holding pin for bars. Ensure the proper fit of the bar lab analog/soldering aid in the bar base. Also use sticky wax or similar to hold the bar lab analog/soldering aid if necessary.

The relining model is then fabricated in the usual way.

RELINING

After fabricating the relining model, the bar is placed on the model and attached with prosthetic screws for bar abutments.

The areas underneath are blocked out. The relining is then finished in the usual way based on the procedure for relining a bar-supported prosthesis.

REPLACING THE BAR AND PROSTHESIS

The bar is fixed in the patient's mouth using unused prosthetic screws for bar abutments. The bar is inserted and the prosthetic screws are tightened to the specified torque of **15 Ncm.** The prosthesis is then inserted and checked for proper seating and occlusion.

Holding pin for bar, bar base,
bar lab analog/soldering aid

CONELOG®
BALL ABUTMENT

INTRODUCTION

In implantological hybrid prosthetics, ball abutment restorations represent movable anchorings that allow rotational movements of the prosthesis in one or more directions respectively vertical translation movements. Ball abutments should generally be perpendicular to the occlusal plane to make axial loading of the implant possible.

TASKS OF A BALL ANCHORING RESTORATION:

- Protecting the prosthesis against shearing and lifting forces
- Shear distribution
- Possible axial transfer of mastication forces between the prosthesis and implant
- Resilience compensation through degrees of freedom

INDICATIONS:

- Resilient anchoring of implant-supported full dentures for the edentulous maxilla and/or mandible in combination with 2 CONELOG® implants to secure a tangential rotation axis.
- Anchoring of implant-supported full dentures for the edentulous maxilla and/or mandible in combination with 4 CONELOG® implants.

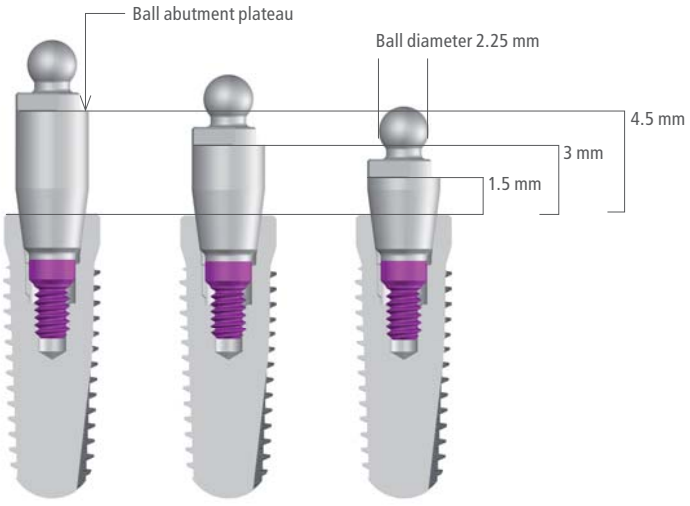
CONTRAINDICATIONS:

- Uneven number of implants per arch
- Improperly placed implants that prevent a tangential rotation axis
- Combination with other retention devices
- Use with disparallel-placed implants with an angulation of more than 10° to the implant axis

PRODUCT DESCRIPTION

CONELOG® ball abutments are color-coded and available for CONELOG® implants in the 3.3/3.8/4.3/5.0 mm diameters in various gingival heights. CONELOG® ball abutment sets are also available consisting of a CONELOG® ball abutment, matrix CM Dalbo® Plus, red duplication aid/spacer, stabilizing ring and ball abutment analog. The ball diameter is 2.25 mm.

Driver for CONELOG® Ball abutments



Gingival heights of CONELOG® Ball abutments

ART. NO.		ARTICLE	MATERIAL
J5300.0011		**Driver for CONELOG® Ball abutments,** for Ø 3.3/3.8/4.3/5.0 mm	Stainless steel

The driver for CONELOG® ball abutments, manual/wrench, is used to screw the CONELOG® ball abutments into their final positions in the CONELOG® implants. The torque for CONELOG® ball abutment Ø 3.3 mm is 20 Ncm and 30 Ncm for Ø 3.8/4.3/5.0 mm.

After insertion, the ball abutment plateau should be at least 1.0 mm supragingival.

CONELOG® BALL ABUTMENT SET FOR IMPLANT DIAMETER 3.3 MM

ART. NO.	C2250.3315	C2250.3330
		
GH mm	1.5	3.0

CONELOG® BALL ABUTMENT SET FOR IMPLANT DIAMETER 3.8 MM

ART. NO.	C2250.3815	C2250.3830	C2250.3845
			
GH mm	1.5	3.0	4.5

CONELOG® BALL ABUTMENT SET FOR IMPLANT DIAMETER 4.3 MM

ART. NO.	C2250.4315	C2250.4330	C2250.4345
			
GH mm	1.5	3.0	4.5

CONELOG® BALL ABUTMENT SET FOR IMPLANT DIAMETER 5.0 MM

ART. NO.	C2250.5015	C2250.5030	C2250.5045
			
GH mm	1.5	3.0	4.5

GH: Gingival height

CONELOG®
BALL ABUTMENT

CONELOG® BALL ABUTMENT FOR IMPLANT DIAMETER 3.3 MM, INCL. STABILIZING RING

ART. NO.	C2249.3315	C2249.3330
		
GH mm	1.5	3.0

CONELOG® BALL ABUTMENT FOR IMPLANT DIAMETER 3.8 MM, INCL. STABILIZING RING

ART. NO.	C2249.3815	C2249.3830	C2249.3845
			
GH mm	1.5	3.0	4.5

CONELOG® BALL ABUTMENT FOR IMPLANT DIAMETER 4.3 MM, INCL. STABILIZING RING

ART. NO.	C2249.4315	C2249.4330	C2249.4345
			
GH mm	1.5	3.0	4.5

CONELOG® BALL ABUTMENT FOR IMPLANT DIAMETER 5.0 MM, INCL. STABILIZING RING

ART. NO.	C2249.5015	C2249.5030	C2249.5045
			
GH mm	1.5	3.0	4.5

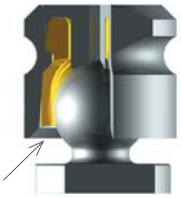
GH: Gingival height

The retention force of the matrix CM Dalbo® Plus belonging to the CONELOG® ball abutment is adjustable stepless from «weak» to «strong» through the lamella retention insert. This makes the CONELOG® ball abutment eminently suitable for implant-retained full dentures. If necessary, the screwdriver/activator for ball abutment matrix CM Dalbo® Plus can be used to unscrew the lamella retention insert for replacement.

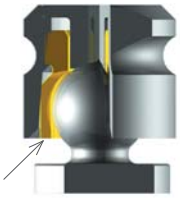
CONELOG® Ball abutment with mounted matrix CM Dalbo® Plus

SETTING THE RETENTION FORCE

With the lamella retention insert at maximum, the retention force is approximately 1200 g. The force is approximately 200 g on delivery. The force can be regulated by screwing the activator in and out.



Lamella retention insert screwed all the way in



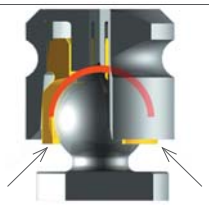
Lamella retention insert screwed all the way out

Activation/Deactivation

The special thread of the slotted lamella retention insert is slightly tapered when turning in to prevent accidental maladjustment.

IMPORTANT NOTE

The lamella retention insert must never extend out of the housing (see arrows), otherwise it may come loose and the matrix will be lifted.



ART. NO.		ARTICLE	MATERIAL
J2250.0005		**Matrix CM Dalbo® Plus for ball abutment,** incl. lamella retention insert, for Ø 3.3/3.8/4.3/5.0 mm	Titanium Grade 4/Gold alloy
J2250.0007		**Lamella retention insert for matrix CM Dalbo® Plus,** for Ø 3.3/3.8/4.3/5.0 mm	Gold alloy
J5315.0005		**Screwdriver/activator,** for ball abutment matrix CM Dalbo® Plus	Stainless steel

CONELOG® IMPRESSION TAKING OPTIONS

After successful implant insertion, the impression can be taken in two versions:

Impression taking in the CONELOG® implant for fabrication of a new ball abutment-retained full denture:
Impression taken directly with CONELOG® impression post, open or closed tray, before insertion of CONELOG® ball abutments for fabrication of a new prosthesis. The cast is then fabricated with CONELOG® lab analogs. See also CONELOG® cast fabrication on page 25–28.

We recommend impression taking open tray because it can be combined with a functional impression to fabricate an extension prosthesis.

Impression taking over CONELOG® ball abutments for broadening of an existing full denture into a ball abutment-retained prosthesis and/or for relining impression taking of an existing ball abutment-retained full denture:
Direct impression taking over the CONELOG® ball abutments. The cast is then fabricated with the ball abutment analog. The ball abutment analog is available for implant diameters 3.3/3.8/4.3/5.0 mm incl. stabilizing ring.

BALL ABUTMENT ANALOG, incl. stabilizing ring

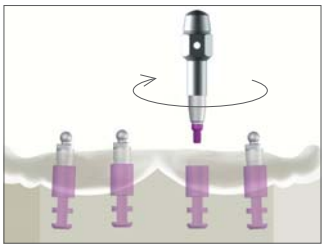
ART. NO.	C3015.3300	C3015.3300	C3015.3300	C3015.5000
				
Implant Ø mm	3.3	3.8	4.3	5.0

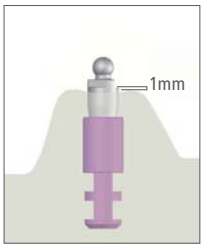
CONELOG®
BALL ABUTMENT

FABRICATION OF A NEW BALL ABUTMENT RETAINED FULL DENTURE WITH INTEGRATED METAL REINFORCEMENT

SELECTION AND INSERTION OF THE CONELOG® BALL ABUTMENT

After fabricating the cast with CONELOG® lab analogs, the CONELOG® ball abutments are inserted. In conformance with the specified implant diameters and gingival heights, the dental technician selects the CONELOG® ball abutments on the master cast and uses the driver for ball abutments to manually screw them into the CONELOG® lab analog.

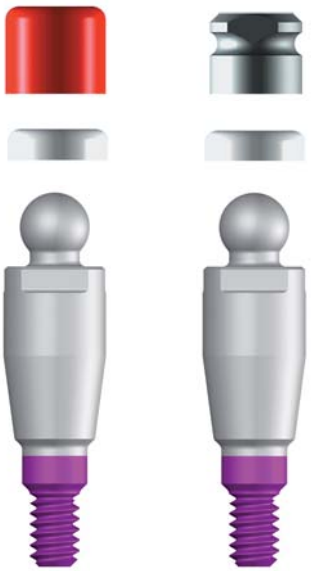


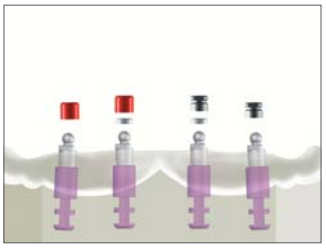


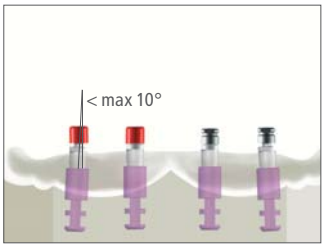
Different abutment heights can be selected to compensate for differences in levels in the gingival margin and implants. The ball heads should be at a uniform level for the best possible retention effect. The ball abutment plateau should be approx. 1 mm supragingival.

ALIGNING THE DUPLICATION AIDS/SPACER

The included stabilizing rings (white) are placed over the CONELOG® ball abutments and the red duplication aids/spacer are clipped on. Thereby the duplication aids/spacer are aligned parallel to the implant axis. If the implant axes diverge, the stabilizing rings are **NOT** used. The implant axial Divergence must not exceed 10° per implant. For a uniform "engaging" of the matrices and uniform activating of the lamella retention inserts, the removal and insertion direction of the denture is important. The duplication aids/spacer are placed parallel on the CONELOG® ball abutments in the common insertion direction and stabilized with wax. Alternatively, the matrix may be used instead of the duplication aid.



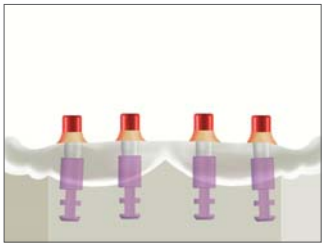


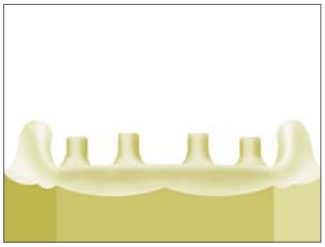


Possible fabrication of the duplication cast with duplication aids or matrices CM Dalbo® Plus

DUPLICATING THE WORKING CAST

After the alignment (paralleling) of the duplication aids, undercut sections are blocked out with wax. When using the matrix, it must be covered with a thin coat of wax (0.3 mm) before duplication (bonding space).

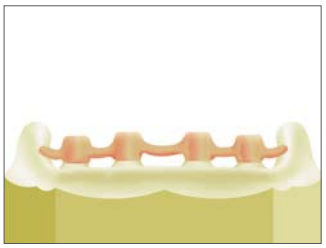




Finished duplication cast

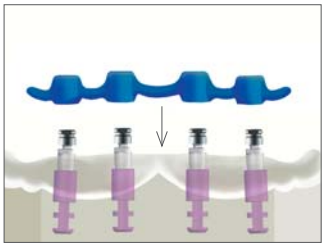
FABRICATING THE METAL REINFORCEMENT

A metal reinforcement is waxed similarly to a telescopic frame work. The wax-up is checked using the silicone index. A perforation is provided for excess cement. Soft tissue contacts are integrated in the free-end area and between the implants.



Wax-up of the metal reinforcement

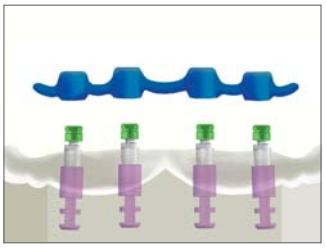
After casting and trimming of the metal reinforcement, the fit is checked on the master cast. The matrices are placed on the CONELOG® ball abutments. The metal reinforcement must be seated tension-free on the matrices and the parallelism may not be changed.

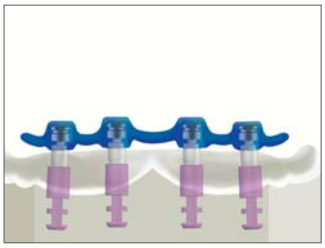


CONELOG®
BALL ABUTMENT

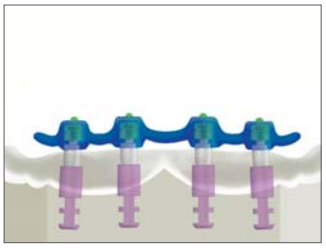
BONDING THE MATRICES IN THE METAL REINFORCEMENT

The bonding surfaces are conditioned. The manufacturer's bonding directions must be observed. The matrices can be bonded to the framework. The lamella retention insert must be deactivated and insulated before bonding. When deactivated, the lamella retention insert must not extend above the margin of the matrix, otherwise the matrix will lift up from the CONELOG® ball abutment. The matrices are clipped to the CONELOG® ball abutments and aligned parallel, accordingly the position set during fabrication of the duplicate cast. The matrix housing must be sealed to prevent entry of bonding material (wax, silicone, or similar).





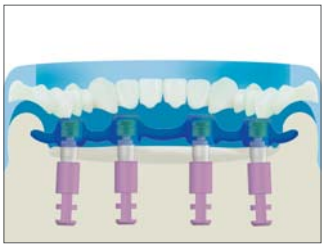
Bonding is performed with a metal attachment bond material accordingly the instruction by the manufacturer.

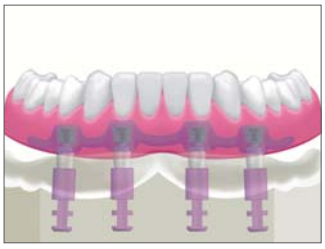


Bonding the matrices in the metal reinforcement

SET-UP AND TRY-IN

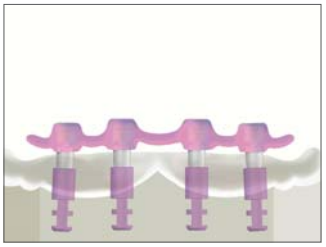
The teeth are set up with the silicone index on the metal reinforcement. The denture is completely waxed and prepared for try-in. The try-in is conducted with deactivated matrices. The vertical height, occlusion, articulation, tension-free seating and esthetics are checked during this process.





FINISHING

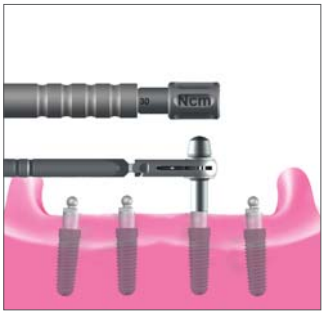
After the try-in, finishing is continued with heat- or cold-cured polymerization in the usual manner. The framework can be coated with pink opaquer beforehand. The matrix housing must be sealed to prevent entry of acrylic (wax, silicone, or similar). The ball abutment-retained full denture must be easy to clean and must function correctly to ensure long-term success.



Finished ball abutment-retained full denture

INSERTION OF THE CONELOG® BALL ABUTMENTS AND THE PROSTHESES

After removing the CONELOG® healing caps, the CONELOG® ball abutments are transferred from the working cast to the previously cleaned CONELOG® implants and the driver for ball abutment and the torque wrench are used to tighten the abutments in the implants based on the specified tightening torque.



TIGHTENING TORQUE FOR CONELOG® BALL ABUTMENTS

Ø 3.3 mm	20 Ncm
Ø 3.8/4.3/5.0 mm	30 Ncm

CONELOG® abutments must be retightened with the same torque after about five minutes to reach the maximum screw tension. This prevents screws from loosening to the extent possible.

The screwdriver/activator for ball abutment matrix is used to set the required retention force of the lamella retention inserts and the prosthesis is inserted in the patient's mouth.

IMPORTANT NOTE
Do not place the stabilizing ring in the mouth.

The clinical insertion is completed with a check of the occlusion and articulation.

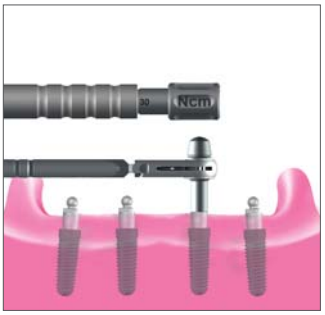
CONELOG®
BALL ABUTMENT

BROADENING OF AN EXISTING FULL DENTURE INTO A BALL ABUTMENT-RETAINED FULL DENTURE

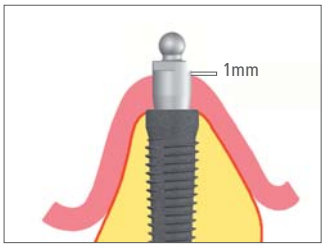
An existing mucosa-supported full denture can be converted into a ball abutment-retained prosthesis in principle, but this will weaken the prosthesis. Because it is known that the chewing force increases with implant-retained dentures, the denture can fracture without metal reinforcement. This procedure can only be considered as a temporary solution.

SELECTION AND INSERTION OF THE CONELOG® BALL ABUTMENTS

After the CONELOG® implants have healed, the CONELOG® ball abutments are inserted. In conformance with the specified implant diameters and gingival heights, the clinician selects the CONELOG® ball abutments intraorally and uses the driver for ball abutment to screw them into the previously cleaned CONELOG® implants. Information about torques, see page 122.



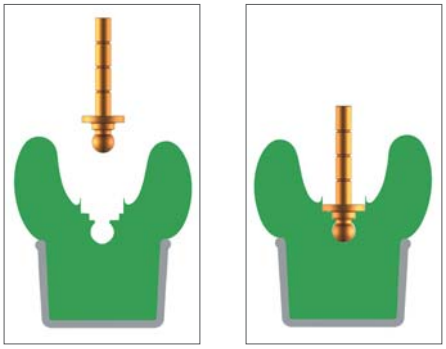
Different abutment heights can be selected to compensate for differences in levels in the gingival margin and implants. The ball heads should be at a uniform level for the best possible retention effect. The ball abutment plateau should be approx. 1 mm supragingival.



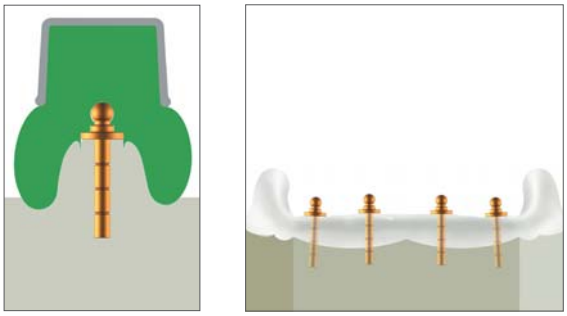
IMPRESSION TAKING OF CONELOG® BALL ABUTMENTS

The impression is taken over the CONELOG® ball abutments directly without accessories. The CONELOG® ball abutments must be fully overmolded and integrated with impression material. Silicone or polyether are suitable impression materials.

After the impression is taken successfully, the clinician must communicate the implant diameters used for cast fabrication to the dental laboratory. Brass ball abutment analogs of the appropriate diameter are then inserted in the impression without stabilizing rings. The guide areas of the circular plateau ensure that the implant axis is transferred precisely to the master cast. The cast is fabricated in the usual manner with suitable material.



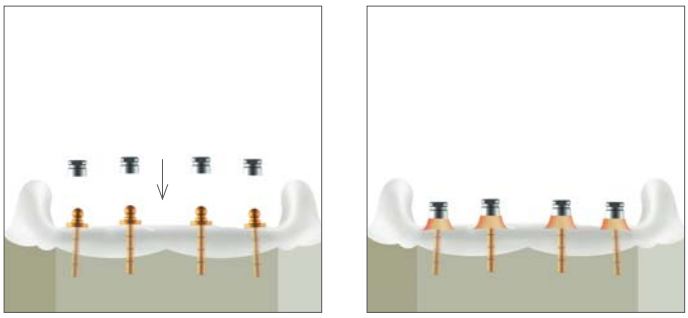
Integrating the ball abutment analogs in the impression



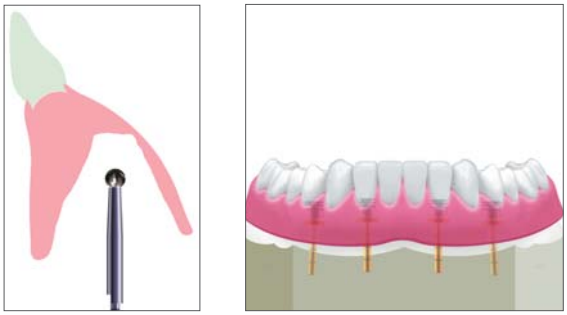
Cast fabrication

INTEGRATING THE MATRICES

Before placing the matrices, the lamella retention inserts are insulated with Vaseline. The matrices are positioned and aligned by the same procedure when fabricating a new ball abutment-retained full denture. The areas underneath are blocked out with plaster. No acrylic should get into the inner configuration of the matrices!



The existing prosthesis base is hollow ground and perforated in the area of the matrices specifically. The perforation is used for visual control and to allow acrylic to escape. The matrix housings can be stained with pink opaquer as required after conditioning the surface.



NOTE
After hollow grinding during the subsequent try-in on the cast, the prosthesis must not come into contact with the matrices and block outs!

CONELOG®
BALL ABUTMENT

A cold-cured polymer is used to attach the matrix housings similar to a direct relining. The matrices must be completely wrapped with acrylic. After curing, the prosthesis is lifted with the polymerized matrices, trimmed and the inner configuration of the matrices cleaned.

The clinician then activates the lamella retention inserts with the screwdriver/activator for ball abutment matrix (see «Setting the retention force» on page 125), the occlusion checked and the finished prosthesis inserted in its final position.

RELINING OF A BALL ABUTMENT-RETAINED FULL DENTURE

The denture-bearing area must be checked at regular intervals and if necessary adjusted by relining to ensure that the ball-retained, soft tissue-supported denture retains its long-term function.

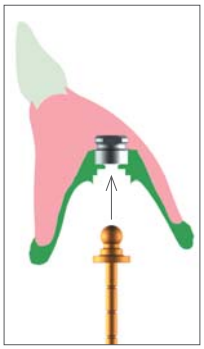
IMPRESSION TAKING

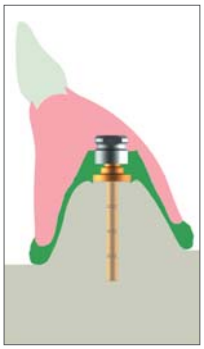
The denture base is prepared in accordance with the procedures for a relining impression. For easy removal of the relining impression, the lamella retention inserts must be deactivated in the matrices with the screwdriver/activator for ball abutment matrix before taking the impression. The lamella retention insert must not be extend out of the matrix housing (see «Setting the retention force» on page 125).

The relining impression is taken over the CONELOG® ball abutments directly without accessories. The CONELOG® ball abutments must be fully overmolded and integrated with impression material. Silicone or polyether are suitable impression materials.

CAST FABRICATION

After the impression is taken successfully, the clinician must communicate the implant diameters used for cast fabrication to the dental laboratory. Brass ball abutment analogs of the appropriate diameter are then inserted in the matrices in the impression without stabilizing rings. The guide areas of the circular plateau ensure that the implant axis is transferred precisely to the master cast. The cast is fabricated in the usual manner with suitable material.





CONELOG®
BALL ABUTMENT

RELINING

NOTE
Before relining, the inner configuration of the matrices must be insulated with Vaseline to prevent acrylic from getting into the matrices. This would destroy the matrices.

The prosthesis is relined in the usual dental manner. After relining, the prosthesis is trimmed and the inner configuration of the matrices cleaned.

The clinician then activates the lamella retention inserts with the screwdriver/activator for ball abutment matrix (see «Setting the retention force» on page 125), the occlusion checked and the finished prosthesis inserted in its final position.

FOLLOW-UP/RECALL

Ball abutment-retained prostheses should be checked for functional reliability initially at intervals of about three months. In doing so, harmful prosthetic movements can be detected early and eliminated by appropriate measures (replacement/activation/deactivation of matrices, relining, occlusion check). The prosthesis is cleaned and the patient instructed again under conditions of poor hygiene.

NOTE
Only clean the components of the ball abutments with suitable instruments. Metal instruments can damage them.

REPLACING THE LAMELLA RETENTION INSERT

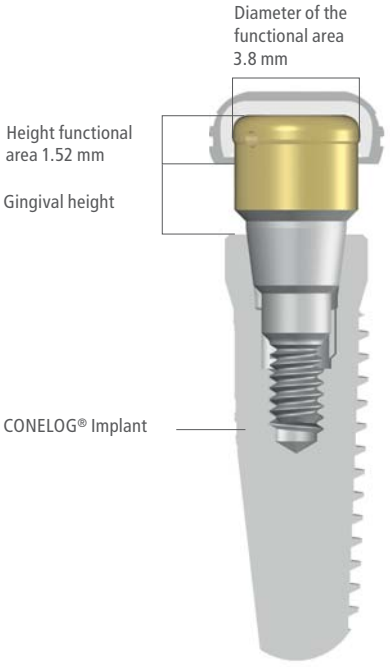
The retention force of the lamella retention insert may be reduced by stress or wear. To replace it, use the screwdriver/activator for ball abutment matrix to unscrew it counter-clockwise from the matrix housing (see «Setting the retention force» on page 125). The new lamella retention insert is screwed in clockwise into the matrix housing. Make sure that it is placed axially. For a controlled adjustment of the retention force, the lamella retention insert is first screwed in completely and then unscrewed one complete turn. This sets the retention force to about 200 g (basic setting). The total retention force can be individually adjusted at the time of insertion of the denture.

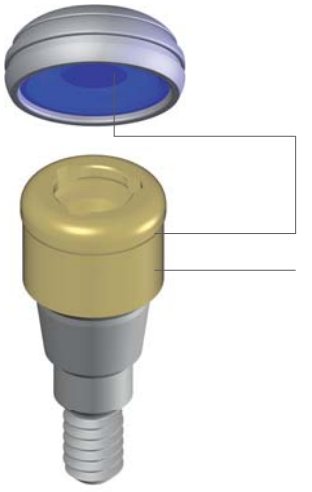
CONELOG® LOCATOR® ABUTMENT

PRODUCT DESCRIPTION

The Locator® anchoring system is intended for use in the tissue-borne and implant-retained prosthesis for resilient supported full dentures in the maxilla and mandible. The system can be used with implant divergences of up to 20° per implant (3.3 mm diameter CONELOG® Locator® abutment – up to 10° divergence per implant). The self-aligning design of the Locator® anchoring system supports the patient when inserting and seating the prosthesis. The design of the CONELOG® Locator® abutments and replacement males provide double (dual) retention.

The Locator® anchoring system contains various replacement males with different retention forces. The CONELOG® Locator® abutments are available for implant diameter 3.3 mm in four gingival heights (1.0/2.0/3.0/4.0 mm) and for implant diameters 3.8, 4.3 and 5.0 mm in five gingival heights (1.0/2.0/3.0/4.0/5.0 mm).





The Locator® anchoring system can also be integrated in a full denture supported on CONELOG® implants:

- For the fabrication of a new full denture with Locator® retention components
- Converting an existing full denture into a Locator®-retained denture

CONELOG® LOCATOR® ABUTMENT

LOCATOR® SYSTEM COMPONENTS

ART. NO.		ARTICLE	IMPLANT Ø IN MM	GH IN MM
C2253.3310		CONELOG® Locator® abutment*	3.3	1.0
C2253.3320				2.0
C2253.3330				3.0
C2253.3340				4.0
C2253.3810		CONELOG® Locator® abutment*	3.8	1.0
C2253.3820				2.0
C2253.3830				3.0
C2253.3840				4.0
C2253.3850				5.0
C2253.4310		CONELOG® Locator® abutment*	4.3	1.0
C2253.4320				2.0
C2253.4330				3.0
C2253.4340				4.0
C2253.4350				5.0
C2253.5010		CONELOG® Locator® abutment*	5.0	1.0
C2253.5020				2.0
C2253.5030				3.0
C2253.5040				4.0
C2253.5050				5.0
J2253.0200		Locator® impression cap (4 units)	3.3/3.8/4.3/5.0	
J2253.0340		Locator® analog (4 units)	3.3/3.8/4.3/5.0	
J2253.0102		**Locator® male processing packages (2 units), content per package:** 1 Titanium housing with processing replacement male, 1 Block out spacer white, 1 Replacement male clear, 1 Replacement male pink, 1 Replacement male blue	3.3/3.8/4.3/5.0	
J2253.0112**		**Locator® male processing packages for extended range (2 units), content per package:** 1 Titanium housing with processing replacement male, 1 Block out spacer white, 1 Replacement male green for extended range, 1 Replacement male orange for extended range, 1 Replacement male red for extended range	3.8/4.3/5.0	
J2253.0401		Locator® block out spacer (20 units)	3.3/3.8/4.3/5.0	
J2253.0402		Locator® processing insert (4 units)	3.3/3.8/4.3/5.0	

* available from summer 2012

** nonlicensed for implant diameter 3.3 mm

LOCATOR® SYSTEM COMPONENTS

ART. NO.		ARTICLE
J2253.1005		Locator® replacement male, clear, STRONG, Div.: 0°–10° (4 units)
J2253.1003		Locator® replacement male, pink, MEDIUM, Div.: 0°–10° (4 units)
J2253.1002		Locator® replacement male, blue, LIGHT, Div.: 0°–10° (4 units)
J2253.2004**		Locator® replacement male for extended range, green, STRONG, Div.: 10°–20° (4 units)
J2253.2003**		Locator® replacement male for extended range, orange, MEDIUM, Div.: 10°–20° (4 units)
J2253.2002**		Locator® replacement male for extended range, red, LIGHT, Div.: 10°–20° (4 units)

** nonlicensed for implant diameter 3.3 mm

LOCATOR® INSTRUMENTS

ART. NO.		ARTICLE
J2253.0004		Locator® parallel post (4 units)
J2253.0003		Locator® angle measurement guide
J2253.0001		Driver for Locator® abutment, manual/wrench
J2253.0002		Locator® instrument, 3-part

LOCATOR® INSTRUMENT

The Locator® instrument consists of three parts screwed together. To remove a processing replacement male or a replacement male, the screw-on tip is loosened three turns counter-clockwise and introduced into the male. When removing, the male is held by the sharp retention edge of the tip. To remove the male from the tip, it is tightened again clockwise on the instrument.

Retentive tip for removing males

Middle piece for repositioning males

Gold-colored endpiece (abutment turning aid)

To introduce a processing replacement male or replacement male into the titanium housing, the middle piece of the Locator® instrument is used. The tip is unscrewed. The required male is positioned on the now visible end and pushed completely into the titanium housing. The gold-colored endpiece can also be unscrewed and can be used as to tighten the CONELOG® Locator® abutment.

Manufacturer Locator®:
Zest Anchors, Inc.
Escondido, CA 92029, USA

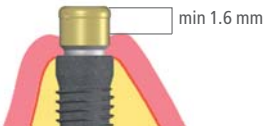
CONELOG® LOCATOR® ABUTMENT

PROCESSING

INSERTION OF THE CONELOG® LOCATOR® ABUTMENT

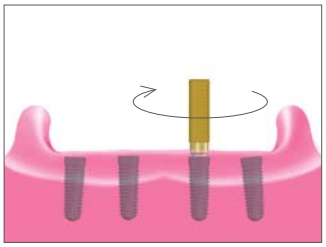
To select the suitable CONELOG® Locator® abutment, the implant diameter and thickness of the gingiva must be known. The thickness of the gingiva determines the required gingival height of the abutment. The exact height of the abutment is selected when the functional region extend out of the surrounding tissue 1.6 mm.

IMPORTANT NOTE
The functional region must be at least 1.6 mm supragingival!

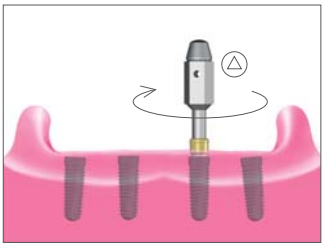


After removing the CONELOG® healing cap, the inner configuration of the CONELOG® implant is cleaned. The contact surfaces between implant and abutment must not be covered by bone and tissue. Only then is proper seating of the abutment on the implant ensured.

To insert the CONELOG® Locator® abutment into the CONELOG® implant, the gold-colored turning element of the Locator® instrument or the driver for Locator® abutment, manual/wrench, can be used. The driver for Locator® abutment, manual/wrench, is used in conjunction with the torque wrench to tighten the abutment into its final position at the specified torque.



Turning element of the Locator® instrument



Driver for Locator® abutment, manual/wrench

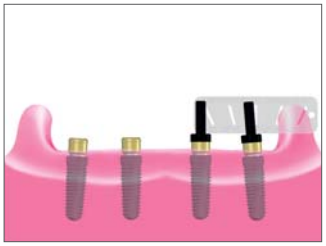
TORQUE FOR CONELOG® LOCATOR® ABUTMENT

Implant Ø 3.3 mm	20 Ncm
Implant Ø 3.8/4.3/5.0 mm	30 Ncm

Note: CONELOG® Locator® abutments must be retightened to the same torque after about five minutes.

MEASURING THE IMPLANT AXES

To measure the implant axes, the black parallel posts are positioned on the fixed abutments. The detectable pressure point indicates the exact engagement. The Locator® angle measurement guide can then be used to determine the angle of the individual implant abutments to each other.



Angle measurement guide

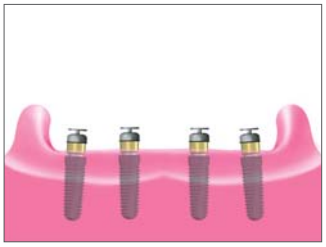
Parallel post

FABRICATION OF A NEW LOCATOR®-RETAINED FULL DENTURE

IMPRESSION TAKING

The impression is taken over the CONELOG® Locator® abutments definitely integrated in the CONELOG® implants using the Locator® impression cap.

An impression cap is positioned on each CONELOG® Locator® abutment. Pay attention to the proper seating of the impression cap. An impression of the oral situation is then taken using suitable impression materials such as silicone or polyether materials. After the impression material has cured and the tray has been removed, the Locator® impression caps remain in the material.

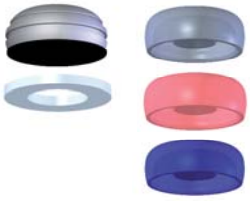


Locator® impression cap

SELECTING THE REPLACEMENT MALES

The determined values are used to select the suitable Locator® replacement males:

Locator® male processing packages,
incl. titanium housing with black processing replacement male, block out spacer white and replacement males (clear, pink, blue)



Locator® male processing packages for extended range*,
incl. titanium housing with black processing replacement male, block out spacer white and replacement males for extended range (green, orange, red)

REPLACEMENT MALES FOR IMPLANT AXIS DIVERGENCES OF 0°–10° PER IMPLANT

Color: clear Retention force: STRONG	
Color: pink Retention force: MEDIUM	
Color: blue Retention force: LIGHT	

REPLACEMENT MALES FOR IMPLANT AXIS DIVERGENCES OF 10°–20° PER IMPLANT, EXTENDED RANGE*

Color: green Retention force: STRONG	
Color: orange Retention force: MEDIUM	
Color: red Retention force: LIGHT	

* nonlicensed for implant Ø 3.3 mm

The Locator® titanium housing (included in each male processing package) can be inserted in the laboratory or practice depending on the selected type of integration.

CONELOG® LOCATOR® ABUTMENT

CAST FABRICATION

After taking the impression, the cast is fabricated using Locator® analogs.

LOCATOR® ANALOG

Locator® analog	ART. NO. J2253.0340
for CONELOG® Locator® abutments	Ø 3.3/3.8/4.3/5.0 mm

The Locator® analogs are placed in the Locator® impression caps in the impression. Pay attention to the proper seating of the analogs. The cast is then fabricated with suitable model material.

FABRICATING THE FULL DENTURE

After fabricating the cast, the white block out spacers included in the Locator® male processing packages are pulled over the functional areas of the Locator® analogs to prevent acrylic from getting into the titanium housings.

White block out spacer

The titanium housings with the black processing replacement male are placed on each analog over the previously placed block out spacer until the pressure point is reached.

The titanium housing is attached by the black processing replacement male and the resilience of the denture determined.

Black processing replacement male

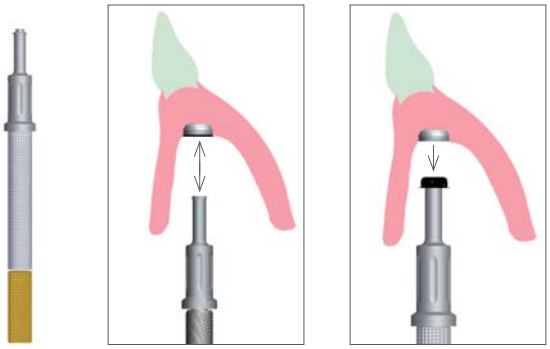
CAUTION
Undercuts between the titanium housings and the surrounding tissue not covered by the block out spacers must be blocked out. Acrylic must not get into the titanium housing during fabrication!

The full denture can now be fabricated in the conventional technology.

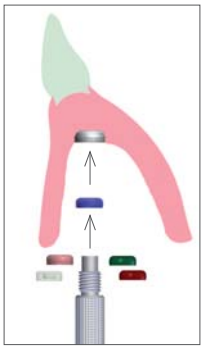
INTEGRATION OF THE COLORED REPLACEMENT MALES

After completing the full denture, the white block out spacers and black processing replacement males are removed from the titanium housings.

The black processing replacement males are removed from the titanium housings using the Locator® instrument. The screw-on tip is turned three rotations counter-clockwise. Then press the retentive tip into the black processing replacement male and remove the male.



The middle piece of the Locator® instrument is used to integrate the colored replacement male in the empty titanium housing. The tip of the instrument is unscrewed, the replacement male positioned and pressed into the titanium housing.



NOTE
The replacement males have no friction on the middle piece. Therefore, keep the middle piece perpendicular and press in the replacement male from the basal view.

CONELOG® LOCATOR® ABUTMENT

CONVERTING AN EXISTING FULL DENTURE INTO A LOCATOR®-RETAINED FULL DENTURE

Locator® components can also be integrated in an existing full denture. After final insertion of the CONELOG® Locator® abutments in the CONELOG® implants (see page 138), the Locator® impression caps are positioned on the abutments. Note the proper seating.

The existing prosthesis is then hollow ground in the area of the impression caps.

IMPORTANT NOTE
The impression caps on the CONELOG® Locator® abutments must not come into contact with the prosthesis when checking the fit in the mouth.

The impression taking in this case is identical to a relining and is taken using the hollow ground prosthesis directly over the impression caps. To ensure that the impression caps remain in the impression, we recommend using suitable impression material such as polyether and silicone compounds

OPTION: With a small denture base, an impression can also be taken with the titanium housings with black processing replacement males. The reduced retention in the impression must be taken into account.

CAST FABRICATION

The Locator® analogs are placed in the Locator® impression caps. Pay attention to the proper seating of the analogs.

The cast is then fabricated with suitable model material.

CONVERTING THE FULL DENTURE

After fabricating the cast, the white block out spacers included in the Locator® male processing package are pulled over the functional areas of the Locator® analogs to prevent acrylic from getting into the titanium housings.

White block out spacer

The titanium housings with the black processing replacement males are placed on each analog over the previously placed block out spacer until the pressure point is reached.

Titanium housing with black processing replacement male

The titanium housing is attached by the black processing replacement male and the resilience of the denture determined.

CAUTION
Undercuts between the titanium housings and the surrounding tissue not covered by the block out spacers must be blocked out. Acrylic must not get into the titanium housing during adaptation!

The titanium housings are then polymerized into the existing full denture and the denture also relined if necessary.

After trimming and polishing the denture, the black processing replacement males are removed and replaced by corresponding replacement males as described in «Integration of the colored replacement males « on page 141.

The finished prosthesis is inserted and the occlusion checked.

CONVERTING AN EXISTING FULL DENTURE INTO A LOCATOR®-RETAINED FULL DENTURE IN THE DENTAL PRACTICE

Locator® components can also be integrated in an existing full denture in the dental practice. After final insertion of the CONELOG® Locator® abutments in the CONELOG® implants (see page 138), the white block out spacers included in the Locator® male processing packages are pulled over the functional areas of the CONELOG® Locator® abutments to prevent acrylic from getting into the titanium housings.

CAUTION
Undercuts between the titanium housings and the surrounding tissue not covered by the block out spacers must be blocked out. Acrylic must not get into the titanium housing during adaptation!

WARNING
During intraoral use, products must be secured in general against aspiration and swallowing.

The titanium housings with the black processing replacement males are positioned on each CONELOG® Locator® abutment over the previously placed block out spacers until the pressure point is reached.

The titanium housing is attached by the black processing replacement male and the resilience of the denture determined.

The existing full denture is carefully prepared and perforated in the areas of the titanium housings. The denture must not come into contact during try-in. Contact with the housings can affect the exact positioning of the denture in the mouth. Acrylic can pass through the perforations occlusally.

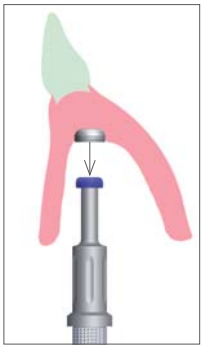
CONELOG® LOCATOR® ABUTMENT

The titanium housing is polymerized with suitable self-curing polymer in accordance with the manufacturer's instructions. We recommend wetting the titanium housing with acrylic. The denture is then inserted, the exact fit checked and the perforations filled with acrylic. After the acrylic has cured, the denture is removed from the mouth, acrylic overages removed and polished.

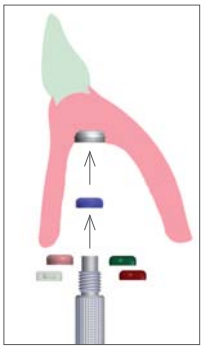
After trimming and polishing, the black processing replacement males are removed and replaced by corresponding colored replacement males as described in «Integration of the colored replacement males» on page 141. The finished prosthesis is inserted and the occlusion checked.

EXCHANGE OF THE REPLACEMENT MALES IN AN EXISTING FULL DENTURE

The Locator® instrument is used to exchange the replacement males if needed. The screw-on tip is turned three rotations counter-clockwise. Press the retentive tip into the replacement male and remove the male.



The middle piece of the Locator® instrument is used to integrate the colored replacement male in the empty titanium housing. The tip of the instrument is unscrewed, the replacement male positioned and pressed into the titanium housing.

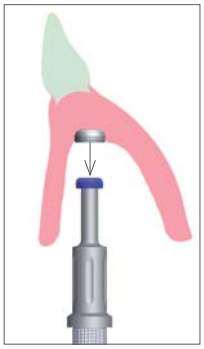


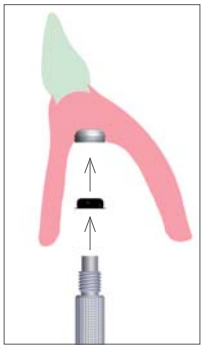
NOTE
The replacement males have no friction on the middle piece. Therefore, keep the middle piece perpendicular and press in the replacement male from the basal view.

See also «Integration of the colored replacement males» on page 141.

RELINING OF A LOCATOR®-RETAINED FULL DENTURE

The colored replacement males are removed from the titanium housings in the denture and replaced by black processing replacement males using the Locator® instrument. See also «Exchange the replacement males in an existing full denture» on page 144.





The processing replacement males fix and hold the denture during the relining impression on the CONELOG® Locator® abutments.

The impression is taken with the denture in the conventional manner. Pay attention to the proper seating of the denture. Impression material must not get into the processing replacement males. After the impression is taken successfully, the black processing replacement males remain in the titanium housings of the denture. The relining impression is handed over to the dental laboratory.

In the dental laboratory, the respective Locator® analogs are inserted in the black processing replacement males for cast fabrication (see also «Cast fabrication» on page 142).

The cast is then fabricated and the relining impression is secured in the conventional manner.

NOTE
We recommend replacing the existing titanium housings in the denture.

After opening the secured relining impression and removing of the impression from the cast, the black processing replacement males incl. the titanium housings are removed from the denture. The white block out spacers are placed over the functional areas of the Locator® analogs on the cast. This prevents acrylic from getting into the titanium housings.

A titanium housing with the black processing replacement male is placed on each analog over the previously placed block out spacer until the pressure point is reached. The titanium housing is attached by the black processing replacement male and the resilience determined.

Titanium housing with black processing replacement male

NOTE
Undercuts between the titanium housings and the surrounding tissue not covered by the block out spacers must be blocked out. Acrylic must not get into the titanium housings when finishing!

The denture is prepared for the relining and ground out in the area of the Locator® titanium housings. The titanium housings must not come into contact with the prosthesis when assembling the secured impression with the cast. The prosthesis is relined in the conventional manner.

After trimming and polishing, the black processing replacement males are removed and replaced by corresponding colored replacement males as described in «Integration of the colored replacement males « on page 141. The finished prosthesis is inserted and the occlusion checked.

ACCESSORIES AND PROSTHETIC INSTRUMENTS

CONELOG® LAB ANALOGS FOR CAST FABRICATION

ART. NO.	C3010.3300	C3010.3800	C3010.4300	C3010.5000
				
Implant Ø mm	3.3	3.8	4.3	5.0

SCREWDRIVER, HEX, FOR LAB AND PROSTHETIC SCREWS

ART. NO.		ARTICLE
J5316.0510		**Screwdriver, hex,** extra short
J5316.0501		**Screwdriver, hex,** short
J5316.0502		**Screwdriver, hex,** long

DISCONNECTOR FOR REMOVING CONELOG® ABUTMENTS WITH CAMS

ART. NO.		ARTICLE	Material
C5300.1601		**CONELOG® disconnector, for CONELOG® Abutments with cams,** thread M 1.6, for Ø 3.3/3.8/4.3 mm	Stainless steel
C5300.2001		**CONELOG® disconnector, for CONELOG® Abutments with cams,** thread M 2.0, for Ø 5.0 mm	Stainless steel

REWORKING REAMER, FOR BASE FOR BAR ABUTMENT, BURN-OUT

ART. NO.		ARTICLE	Material
J3711.0010		**Reworking reamer for base for bar abutment, burn-out,** plane surface/cone, for Ø 3.3/3.8/4.3/5.0 mm	Stainless steel
J3711.0020		**Reworking reamer for base for bar abutment, burn-out,** screw seat, for Ø 3.3/3.8/4.3/5.0 mm	Stainless steel

CONELOG® BONDING AID FOR SECURING CONELOG® ABUTMENTS ON THE WORKING CAST AND FOR PROTECTING THE SCREW CHANNEL

ART. NO.		ARTICLE	Material
C4009.1600		**CONELOG® Bonding aid,** black (2 units), thread M 1.6, for Ø 3.3/3.8/4.3 mm	POM
C4009.2000		**CONELOG® Bonding aid,** black (2 unit), thread M 2.0, for Ø 5.0 mm	POM

UNIVERSAL HOLDER

ART. NO.		ARTICLE
C3709.0010		**CONELOG® Universal holder,** incl. 2 CONELOG® Lab screws (thread M 1.6 and M 2.0) and each 1 CONELOG® Abutment collect for implant Ø 3.3/3.8/4.3/5.0 mm
J3709.0015		**Universal holder**

CONELOG® ABUTMENT COLLECTS FOR UNIVERSAL HOLDER

ART. NO.	C3709.3300	C3709.3800	C3709.4300	C3709.5000
				
Implant Ø mm	3.3	3.8	4.3	5.0

MATERIALS

TITANIUM GRADE 4	**PROPERTIES:**		
	Chemical structure (in %):	O	0.4 max.
		Fe	0.3 max.
		C	0.1 max.
		N	0.05 max.
		H	0.0125 max.
		Ti	> 99.0
	Mechanical properties:	Tensile strength	680 MPa min.
		Elongation	10 %
TITANIUM ALLOY TI6AI4V ELI	**PROPERTIES:**		
	Chemical structure (in %):	AI	5.5–6.75 max.
		V	3.5–4.5 max.
		Fe	0.3 max.
		C	0.08 max.
		N	0.05 max.
		H	0.015 max.
		Ti	~ 90
	Mechanical properties:	Tensile strength	860 MPa min.
		Elongation	10 %
CAST-ON GOLD ALLOY	**PROPERTIES:**		
CONELOG® GOLD-PLASTIC	Chemical structure (in %):	Au	60
ABUTMENT		Pd	20
		Pt	19
		Ir	1
	Physical properties:	Melting range	1400–1490 °C
		Density	17.5 g/cm3
		E-Modul	136 GPa
		Coefficient of thermal expansion (20–500°C)	11.9 µm/m·°C
		Coefficient of thermal expansion (20–600°C)	12.2 µm/m·°C
		Color	white
	Mechanical properties:		drawn
		Hardness HV5	> 215
		Tensile strength (Rm)	> 750 MPa
		0.2% Elongation limit (Rp 0.2%)	> 650 MPa
		Elongation at break	> 2 %

MATERIALS

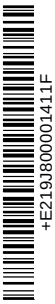
CAST-ON GOLD ALLOY	**PROPERTIES:**		
BASE FOR CONELOG®			
BAR ABUTMENT			
	Chemical structure (in %):	Au	60
		Pt	19
		Pd	20
		Ir	1
	Mechanical properties:	Density	17.5 g/cm³
		Color	white
		Liquidus	1490 °C
		Solidus	1400 °C
		Coefficient of thermal expansion (25–500°C)	12.5 µm/m· °C
		Coefficient of thermal expansion (25–600°C)	12.6 µm/m· °C
		E-Modul	136 GPa
			hardened
			700 °C/30 min
		Hardness HV5	210
		Tensile strength MPa	530–650 MPa
		0.2% Elongation limit	450–570 MPa
		Elongation at break	min 10 %
SOLDERABLE GOLD ALLOY	**PROPERTIES:**		
BASE FOR CONELOG®			
BAR ABUTMENT			
	Chemical structure (in %):	Au	70
		Pt	8.5
		Ag	13.40
		Pd	–
		Cu	7.50
		Zn	0.50
		Ir	0.10
		Rh	–
		Ru	–
	Mechanical properties:	Color	yellow
		Melting range	895–1010 °C
		Hardness	
		annealed HV5	170
		hardened HV5	295
		self-hardened HV5	280

FURTHER DOCUMENTATION

Further information about CONELOG® products is available in the following documentation:

- CONELOG product catalog
- CONELOG work instructions
- Preparation instructions
- Instruction manuals (included with CAMLOG® and CONELOG® products as package inserts)
- www.camlog.com

Art. No. J8000.0141 Rev.1 01/2012



HEADQUARTERS
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camlog