CONELOG® PROGRESSIVE
guide system

Catalog & Surgical Manual

BIOHORIZONS®

CONELOG® PROGRESSIVE-LINE

General system information

The CONELOG® PROGRESSIVE-LINE Implant System is based on many years of experience with the SCREW-LINE implant design as well as comprehensive laboratory tests. The CONELOG® PROGRESSIVE-LINE Implant System is a user-friendly, and prosthetically oriented implant system.

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

The CONELOG® Implant System are well documented scientifically. Studies* support this with respect to many parameters including the implant surface, time of implantation and/or implant loading, primary stability, and the connection design.

Important note:

The descriptions that follow are not adequate to permit immediate use of the CONELOG® Implant System. Instruction by a surgeon experienced in using one of the two systems is strongly recommended. CONELOG® Implants and abutments should only be used by dentists, doctors, 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.

The images in this document are for reference purposes only and may differ from the actual product.

Color-coding of the surgical & prosthetic CONELOG® products

	COLOR	DIAMETER
	Gray	3.3 mm
	Yellow	3.8 mm
	Red	4.3 mm
	Blue	5.0 mm

Please note this manual is for CONELOG® PROGRESSIVE-LINE implants and the Guided instrument protocol. Descriptions may be abbreviated throughout for ease of reading.

** See section "Further documentation" on page 37*

Table of contents

System description

Introduction

The components of the Guide System serve the template-guided preparation of the implant bed and insertion of CONELOG® PROGRESSIVE-LINE Implants Promote® plus with screw-mounted insertion posts in a partially or fully edentulous maxilla and/or mandible.
Drilling templates with Guide System guiding sleeves are used for:

a) Positioning lab analogs during preoperative fabrication of the model and the (long-term) temporary restoration.

b) Guiding surgical instruments of the Guide System during implant bed preparation.

c) Guiding PROGRESSIVE-LINE Implants with screw-mounted insertion posts during their insertion.

The Guide System comprises the following components:

- Laboratory instruments for converting an x-ray template into a drilling template.
- Surgical instruments for template-guided bone or periodontally supported implant bed preparation and implant insertion.
- CONELOG® PROGRESSIVE-LINE Implants, Promote® plus with screw-mounted insertion posts.

The implants are available in the diameters 3.3, 3.8, 4.3 and 5.0 mm. These are screw-retained with a system-specific color-coded insertion post for template-guided insertion. The prosthetic restoration is completed with single crowns, bridges or complete prosthesis.

In order to be able to use the Guide System, the practice/laboratory must be equipped with a suitable 3D planning system and, where necessary, the appropriate guiding sleeve positioning system. Suitable systems are currently listed on the Camlog website at:

https://www.camlog.com/en/implant-systems/conelog/digital-technology/

Using the planning software and the guiding sleeve positioning system (referred to hereafter as positioner), an existing x-ray template is converted into a drilling template using the Guide System laboratory instruments.
An alternative to fabricating a drilling template on a positioner, some manufacturers of planning systems offer modules for the construction of drilling templates. Depending on the system, the design can be manufactured locally or centrally.

Important notes:

- ALTATEC GmbH/CAMLOG Biotechnologies GmbH waive all liability for the performance of planning and its transfer to the drilling template. Before using the Guide System, the user must be familiar with the used 3D planning system and positioner.
- With some planning systems, only the use of gingiva-supported drilling templates is possible. However, Camlog does not recommend such templates because correct positioning cannot be ensured due to anatomical conditions. In addition, the resilience of the mucous membrane can lead to shifts in the position of the drilling template and therefore inaccuracies in application.

CONELOG® PROGRESSIVE implants

Implants & healing abutments

CONELOG® PROGRESSIVE-LINE implant, Promote® plus

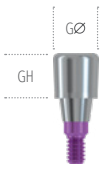
Includes insertion post (screw-mounted) and cover screw.
Packaged sterile. Titanium Grade 4.

Screw-mounted Part Number	Implant Diameter	Length	Apical Diameter
C1085.3309	3.3 mm	9 mm	2.2 mm
C1085.3311		11 mm	
C1085.3313		13 mm	
C1085.3316		16 mm	
C1085.3807	3.8 mm	7 mm	3.0 mm
C1085.3809		9 mm	
C1085.3811		11 mm	2.7 mm
C1085.3813		13 mm	
C1085.3816		16 mm	
C1085.4307	4.3 mm	7 mm	3.0 mm
C1085.4309		9 mm	
C1085.4311		11 mm	2.7 mm
C1085.4313		13 mm	
C1085.4316		16 mm	
C1085.5007	5.0 mm	7 mm	3.5 mm
C1085.5009		9 mm	
C1085.5011		11 mm	3.2 mm
C1085.5013		13 mm	
C1085.5016		16 mm	

Note: the implant length (L) is the distance from the apical curve to the machined shoulder surface of the implant (overall length).

CONELOG® Cylindrical Healing caps

Packaged sterile. Titanium alloy.

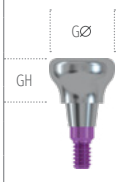
Abutment Type	Part Number	Implant Diameter	Gingival Height	Gingival Diameter
Cylindrical 	C2015.3320	3.3 mm	2.0 mm	3.0 mm
	C2015.3340		4.0 mm	3.0 mm
	C2015.3820	3.8 mm	2.0 mm	3.5 mm
	C2015.3840		4.0 mm	3.5 mm
	C2015.3860*		6.0 mm	3.5 mm
	C2015.4320	4.3 mm	2.0 mm	3.8 mm
	C2015.4340		4.0 mm	3.8 mm
	C2015.4360*		6.0 mm	3.8 mm
	C2015.5020	5.0 mm	2.0 mm	4.5 mm
	C2015.5040		4.0 mm	4.5 mm
	C2015.5060*		6.0 mm	4.5 mm

GH: Gingival height GØ: Gingival diameter

*suitable for bite registration

CONELOG® Wide Body & Bottleneck Healing caps

Packaged sterile. Titanium alloy.

Abutment Type	Part Number	Implant Diameter	Gingival Height	Gingival Diameter
Wide Body 	C2014.3340	3.3 mm	4.0 mm	4.8 mm
	C2014.3840	3.8 mm	4.0 mm	5.3 mm
	C2014.3860		6.0 mm	5.3 mm
	C2014.4340	4.3 mm	4.0 mm	5.8 mm
	C2014.4360		6.0 mm	5.8 mm
	C2014.5040	5.0 mm	4.0 mm	6.5 mm
	C2014.5060		6.0 mm	6.5 mm
Bottleneck 	C2011.3340	3.3 mm	4.0 mm	3.3 mm
	C2011.3840	3.8 mm	4.0 mm	3.8 mm
	C2011.3860		6.0 mm	3.8 mm
	C2011.4340	4.3 mm	4.0 mm	4.0 mm
	C2011.4360		6.0 mm	4.0 mm
	C2011.5040	5.0 mm	4.0 mm	4.7 mm
	C2011.5060		6.0 mm	4.7 mm

Surgical instruments

Instruments & components

Gingiva punches

Packaged sterile. Stainless steel.

Part Number	Diameter
J5041.3304	3.3 mm
J5041.3804	3.8 mm
J5041.4304	4.3 mm
J5041.5004	5.0 mm

Guide System pre-drill PROGRESSIVE-LINE

Resterilizable. 5mm length. Stainless steel.

Part Number	Diameter
J5076.3305	3.3 mm
J5076.3805	3.8 mm
J5076.4305	4.3 mm
J5076.5005	5.0 mm

Guide System pilot drill PROGRESSIVE-LINE

Resterilizable. Stainless steel

Part Number	Implant Diameter	Length
J5074.3305	3.3 mm	5 mm
J5074.3309		9 mm
J5074.3311		11 mm
J5074.3313		13 mm
J5074.3316		16 mm
J5074.4305	3.8 mm	5 mm
	4.3 mm	
J5074.4307	3.8 mm	7 mm
	4.3 mm	
J5074.4309	3.8 mm	9 mm
	4.3 mm	
J5074.4311	3.8 mm	11 mm
	4.3 mm	
J5074.4313	3.8 mm	13 mm
	4.3 mm	
J5074.4316	3.8 mm	16 mm
	4.3 mm	
J5074.5005	5.0 mm	5 mm
J5074.5007		7 mm
J5074.5009		9 mm
J5074.5011		11 mm
J5074.5013		13 mm
J5074.5016		16 mm

Surgical instruments

Instruments & components

Guide System form drill
PROGRESSIVE-LINE

Resterilizable. Stainless steel

Part Number	Implant Diameter	Length
J5076.3309	3.3 mm	9 mm
J5076.3311		11 mm
J5076.3313		13 mm
J5076.3316		16 mm
J5076.3807	3.8 mm	7 mm
J5076.3809		9 mm
J5076.3811		11 mm
J5076.3813		13 mm
J5076.3816		16 mm
J5076.4307	4.3 mm	7 mm
J5076.4309		9 mm
J5076.4311		11 mm
J5076.4313		13 mm
J5076.4316		16 mm
J5076.5007	5.0 mm	7 mm
J5076.5009		9 mm
J5076.5011		11 mm
J5076.5013		13 mm
J5076.5016		16 mm

Guide System dense bone drill
PROGRESSIVE-LINE

Resterilizable. Stainless steel

Part Number	Implant Diameter	Length
J5078.3309	3.3 mm	9 mm
J5078.3311		11 mm
J5078.3313		13 mm
J5078.3316		16 mm
J5078.3807	3.8 mm	7 mm
J5078.3809		9 mm
J5078.3811		11 mm
J5078.3813		13 mm
J5078.3816		16 mm
J5078.4307*	4.3 mm	7 mm
J5078.4309		9 mm
J5078.4311		11 mm
J5078.4313		13 mm
J5078.4316		16 mm
J5078.5007	5.0 mm	7 mm
J5078.5009		9 mm
J5078.5011		11 mm
J5078.5013		13 mm
J5078.5016		16 mm

J5002.0006 **Drill extension**

ISO shaft (not for drills with internal irrigation). 26.5 mm length.
Stainless steel.

Guide System form drill for Ø 3.8 mm under preparation
PROGRESSIVE-LINE

Resterilizable. Stainless steel

Part Number	Implant Diameter	Length
J5077.3309	3.3 mm	9 mm
J5077.3311		11 mm
J5077.3313		13 mm
J5077.3316		16 mm

Surgical instruments

Instruments & components

Guide System template drill

For Guide System guiding sleeve.
Stainless steel.

Part Number	Diameter
J3753.3300	3.3 mm
J3753.4300	3.8 mm
	4.3 mm
J3753.5000	5.0 mm

Guide System setting tool

For Guide System guiding sleeve.
Stainless steel.

Part Number	Diameter
J3717.3300	3.3 mm
J3717.4300	3.8 mm
	4.3 mm
J3717.5000	5.0 mm

Guide System guiding sleeve PROGRESSIVE-LINE

2 units. Color-coded. Titanium alloy.

Part Number	Diameter
J3754.3301	3.3 mm
J3754.3801	3.8 mm
J3754.4301	4.3 mm
J3754.5001	5.0 mm

Guide System check-up pin

For Guide System guiding sleeve.
Stainless steel.

Part Number	Diameter
J5301.3310	3.3 mm
J5301.4310	3.8 mm
	4.3 mm
J5301.5010	5.0 mm

CONELOG Re-set Cam ring remover

Packaged Sterile. Stainless steel.

Part Number	Diameter
C5910.3300	3.3 mm
C5910.4300	3.8 mm
	4.3 mm
C5910.5000	5.0 mm

J5300.0032 **Driver, short**

Manual/wrench for screw implants,
19.2 mm length. Stainless steel.

J5300.0031 **Driver, extra short**

Manual/wrench for screw implants,
13.7 mm length. Stainless steel.

J5300.0033 **Driver, long**

Manual/wrench for screw implants,
24.8 mm length. Stainless steel.

J5300.0036 **Driver, short**

With ISO-shaft for angled hand piece
(without a hexagon on the shaft).
For screw implants. 19.1 mm length.
Stainless steel.

J5300.0037 **Driver, long**

With ISO-shaft for angled hand piece
(without a hexagon on the shaft).
For screw implants. 28.2 mm length.
Stainless steel.

Surgical instruments

Instruments & components

Guide System CONELOG® Insertion Post

For CONELOG® Lab analog/Implant analog incl. fixing screw (2 units). Color coded. Titanium alloy.

Part Number	Diameter
C2026.3303	3.3 mm
C2026.3803	3.8 mm
C2026.4303	4.3 mm
C2026.5003	5.0 mm

CONELOG® Implant Analog

Color coded. Titanium alloy.

Part Number	Diameter
C3025.3300	3.3 mm
C3025.3800	3.8 mm
C3025.4300	4.3 mm
C3025.5000	5.0 mm

Handle for CONELOG® Implant Analog

Stainless steel.

Part Number	Diameter
J3025.0010	3.3 mm
	3.8 mm
	4.3 mm
J3025.0015	5.0 mm

J5317.0510 **Screwdriver, extra short**

Hex, extra short. manual/wrench.
14.5 mm length. Stainless steel.

J5317.0501 **Screwdriver, short**

Hex, extra short. manual/wrench.
22.5 mm length. Stainless steel.

J5317.0502 **Screwdriver, long**

Hex, extra short. manual/wrench.
30.3 mm length. Stainless steel.

J5320.1030 **Torque wrench**

With continuous torque adjustment.
Maximum torque 30 Ncm.
Stainless steel.

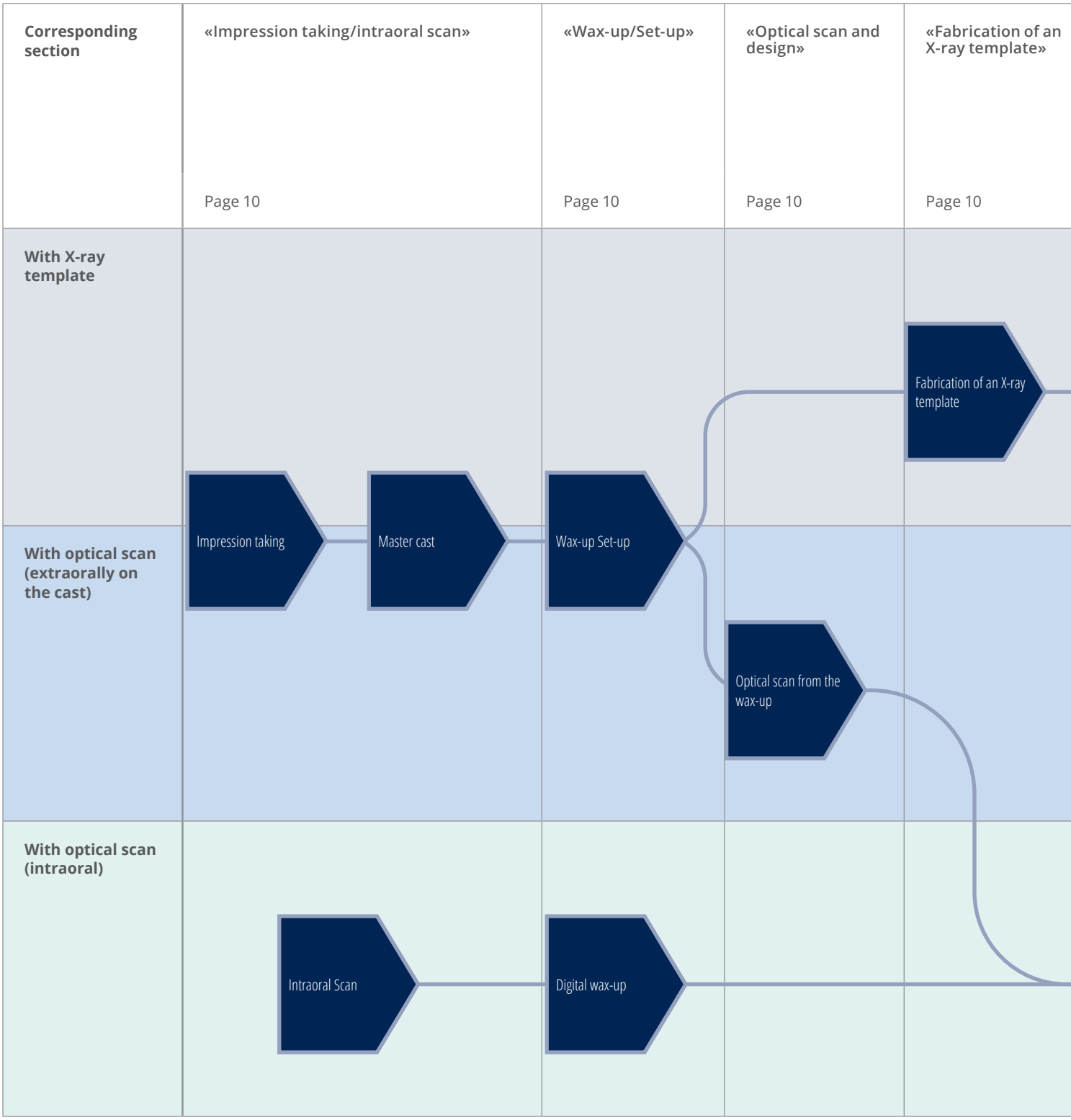
J5302.0010 **Holding key for insertion post**

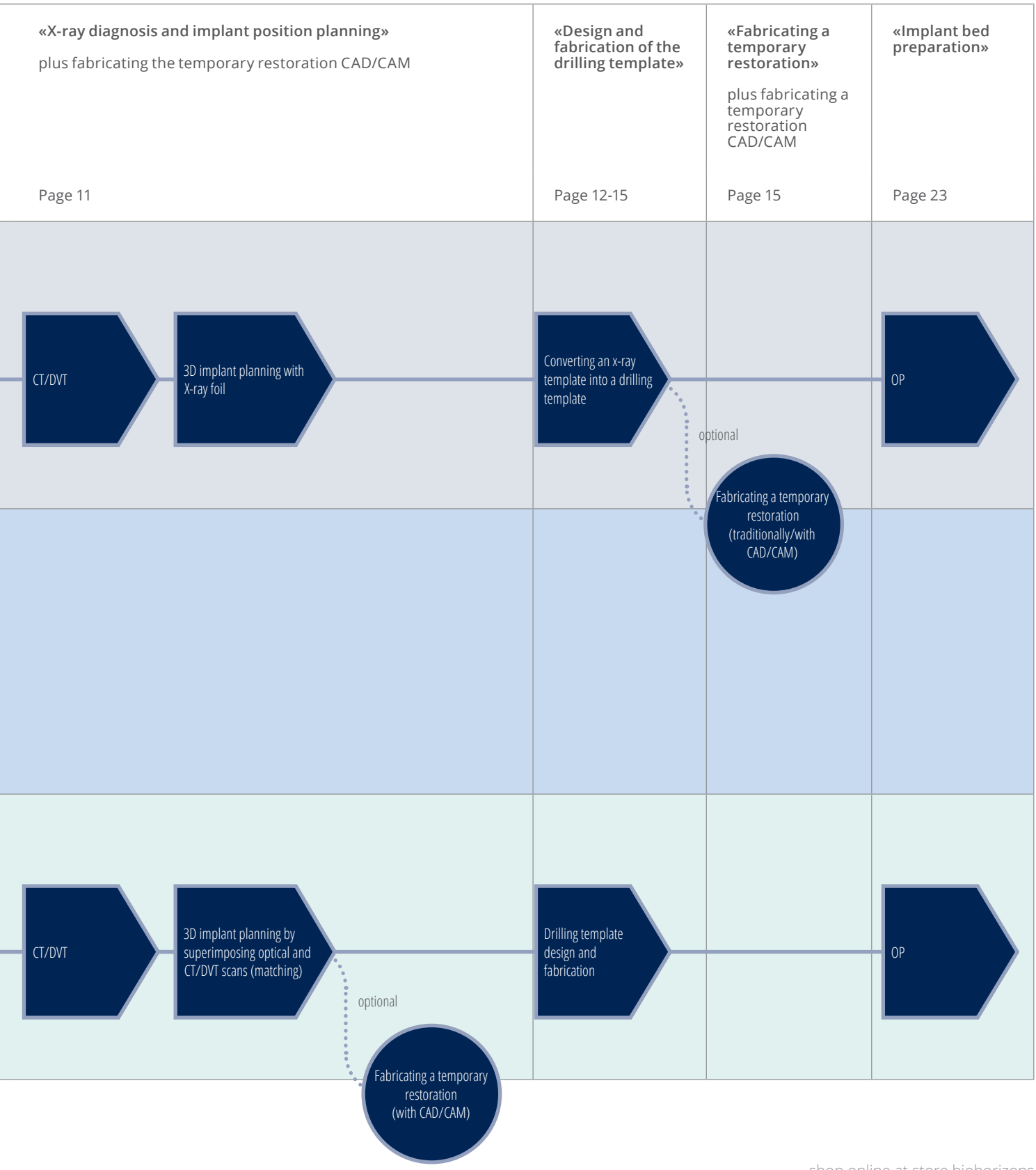
Stainless steel.

Application

Overview of application options

Below is an overview of the work steps:





Application

Planning the case

Impression taking

A. Impression taking for adequately partially edentulous jaw
If the existing teeth can guarantee sufficiently stable and repositionable fixation of an x-ray template, an impression is taken of the oral situation and a master cast is fabricated.

B. Impression taking for edentulous or inadequately partially edentulous jaw
In the case of an edentulous or partially edentulous jaw where the residual teeth do not guarantee stable and/or reproducible fixation of an x-ray template, a sufficient quantity (3 units minimum in an edentulous jaw) of "temporary implants" (snap-action mechanism with matrix) are first set so as to be able to fix the x-ray template precisely in the mouth at a later stage. The positioning must be selected so that the best possible mechanical stability is achieved and later insertion of the final implants is not obstructed.

An impression is taken of the oral situation with the impression components belonging to the temporary implants (depending on the temporary implants used) and a master cast is fabricated with corresponding analogs.

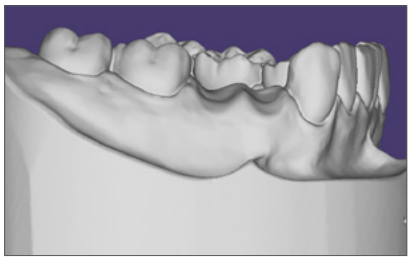
Intraoral Scan

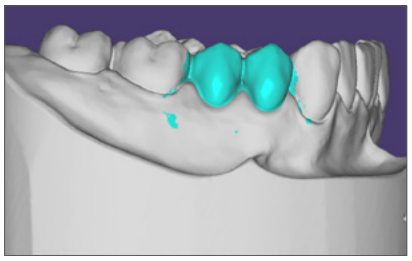
As an alternative to conventional impression taking with elastomers, it is also possible to realize the oral situation with an intraoral scan.

Wax-up/Set-up

Conventional
A wax-up/set-up of the teeth to be replaced is prepared on the master cast to determine the optimal tooth position from a prosthetic perspective for later restoration (planning of prosthetic restorations in the articulator). The wax-up/set-up serves as a basis for the following subsequent stages of the technique used:
Production of a deep-drawn x-ray template for later conversion to a drilling template if necessary.
Planning of prosthetic restoration using CAD software based on a scan of the wax-up.

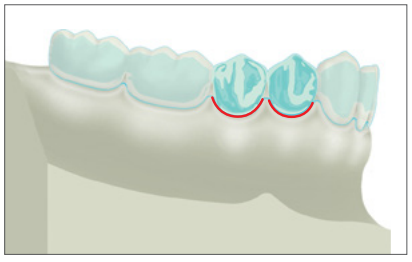
Digital
As an alternative to a wax-up/set-up, the tooth configuration can also be created in entirely virtual fashion using the CAD software after scanning in the laboratory.





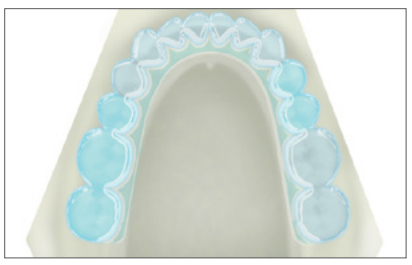
Fabrication of an X-ray template

The x-ray template is functional and preferably made of transparent plastic. In the previously deep-drawn template, the missing teeth are then filled with suitable x-ray opaque plastic (at least 15–20% barium sulphate content). The teeth filled in this manner must be flush with the gingiva (see graphic) in order to represent the exact gingiva height.



Note:

Further information on fabricating a suitable x-ray template including correct positioning of any reference objects that may be required is available from the manufacturer of the 3D planning system.



Application

Planning the case

X-ray diagnosis and implant position planning

A. Using an X-ray template
The x-ray template is placed on the residual teeth and/or on the temporary implants. The implants must exhibit adequate primary stability. The x-ray tomography (CT/DVT) is performed with the template accurately positioned and securely attached. After this, the data acquired from the CT or DVT is transferred to the 3D planning software.

B. By superimposing optical and radiological scans
By means of selected reference points, the surface data of the wax-up/set-up scan, the scan of the real oral situation or a virtual tooth configuration can be superimposed with the volume data of the x-ray tomography. Both methods allow implant planning to be carried out according to anatomical, surgical and prosthetic requirements.

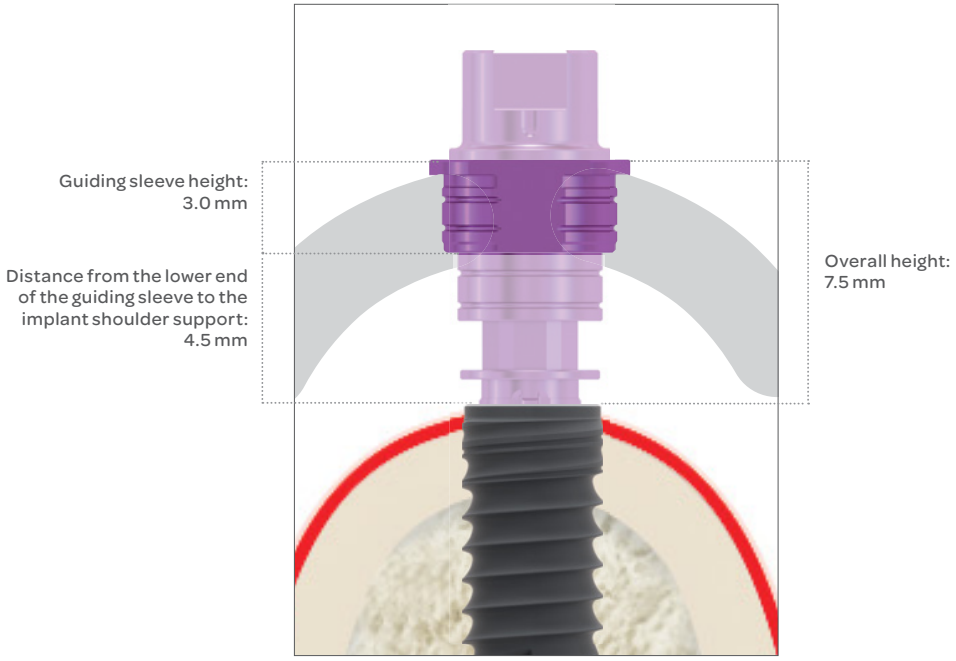
Once planning of the implant positions in the 3D software is complete, the data are available for positioning and alignment of the guiding sleeves in the drilling template.

Important note:

Subcrestal placement of the implant should be avoided.

WARNING:

- During planning, the surgeon must maintain an appropriate safety margin from teeth and vital structures.
- Maintain a safety margin of 1.5 mm from the mandibular nerve or inferior alveolar nerve. Otherwise permanent injury may be caused to nerves or other vital structures.
- Implant diameters and lengths must be sized to leave adequate bone (at least 1.0 mm exists around the implant).
- Maintain a minimum distance of 1.5 mm to an adjacent natural tooth and 3.0 mm to an adjacent implant.
- Dimensions to be considered in the planning software (if not implemented by the software manufacturer): the overall height (vertical distance from the implant shoulder to the top edge of the guiding sleeve) is 7.5 mm. The guiding sleeve height of 3 mm allows a maximum gingival thickness of 4.5 mm.
- The total height must not be altered otherwise there is a risk of incorrect drilling depth and implant positioning!
- If planning shows that the basal rim of the guiding sleeve lies in the soft tissue, then the gingiva is to be folded out until correct intraoperative positioning of the template is ensured.



Application

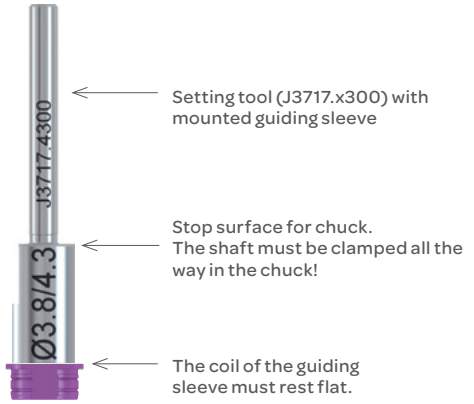
Drilling template design & fabrication

Preparing the template and depth referencing

To convert the x-ray template into a drilling template for the region of the implant positions, the teeth of the x-ray template are ground down. When grinding, care should be taken to ensure that adequate stability of the template is maintained so as to prevent breakage during subsequent laboratory and surgical use (potential warping of the template).

After checking the safety marks, the depth stop settings for the depth of the guiding sleeve are to be made on the positioner.
To do this, the Guide System setting tool with a mounted guiding sleeve is inserted into the milling spindle.

The depth stop of the positioner is readjusted by mounting the guiding sleeve between the burlings of the test piece (see also positioner instructions for use), whereby the guiding sleeve has to sit on the coil of the setting tool. The setting tool itself must not lie on the test piece.



Correct handling of the setting tool and the guiding sleeve

WARNING:

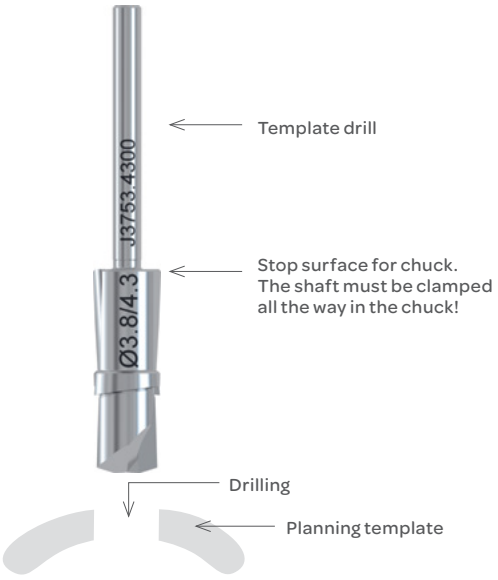
In order to ensure reproducible seating depth of the guide sleeves, the setting tool must be clamped with its complete shaft length up to the stop in the milling spindle chuck.

After setting the depth stop, the setting tool is replaced by the Guide System template drill.

WARNING:

In order to ensure the correct seating depth of the guiding sleeves, the template drill must be clamped with its complete shaft length up to the stop in the milling spindle chuck.

The length of the template drill is already matched to the length of the setting tool, so that the depth stop does not have to be readjusted on the positioner.



Application

Drilling template design & fabrication

Drilling out the template and inserting the sleeves
The hole for the guiding sleeve can now be drilled according to the positioner settings specified by the planning software and documented in the drilling plan/print protocol.

After drilling in the template is complete, the template drill is replaced with the setting tool. Here, care should be taken to ensure that the setting tool is clamped up to the stop in the chuck.

The Guide System guiding sleeve that matches the implant diameter is mounted onto the setting tool.

Note:

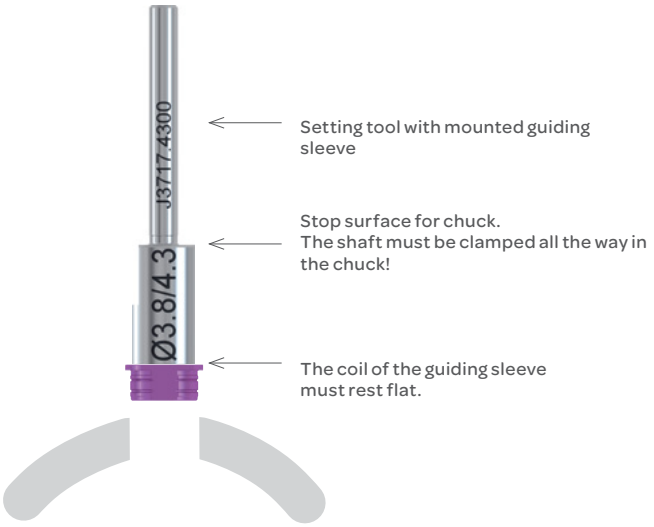
To prevent overheating possibly associated deformation of the drill hole, the following is recommended:

Pre-drilling the borehole:
with a twist drill, max. Ø 4.0 mm for sleeve diameter 3.3 mm;
with a twist drill, max. Ø 5.0 mm for sleeve diameter 3.8 & 4.3 mm;
with a twist drill, max. Ø 6.0 mm for sleeve diameter 5.0 mm;

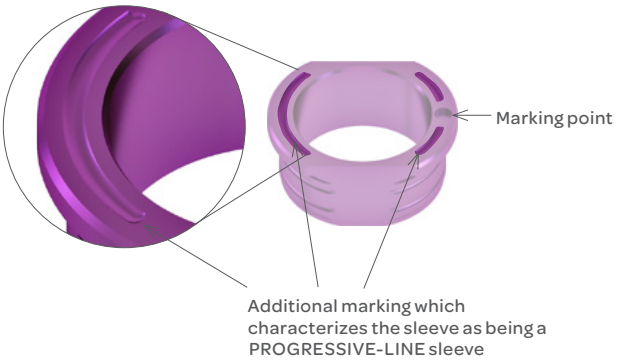
Drilling in plastic should be performed intermittently and under cooling with compressed air!

WARNING:

- In order to ensure the correct setting depth of the guiding sleeves, the template drill must be clamped with its complete shaft length up to the stop in the milling spindle chuck.
- The round notches around the marking point indicate that this is a Guide System PROGRESSIVE-LINE sleeve.



If the 3D plan specifies the orientation of the implant's grooves, e.g. due to the planned use of angled abutments, the marking point on the sleeve is to be turned to the position of a groove. If there are no specifications, vestibular orientation of the marking point is recommended.



Application

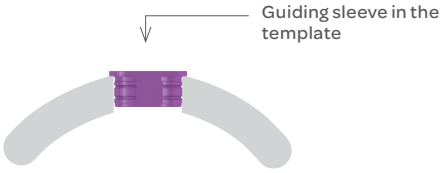
Drilling template design and fabrication

The setting tool with mounted guiding sleeve is to be lowered to the depth stop of the positioner. In this position the guiding sleeve is to be bonded or to be attached with plastic (light-curing).

Important note:

Before bonding/embedding the guiding sleeve, it must be ensured that the depth stop of the positioner is reached. Further information on using the respective positioner is available from the manufacturer.

In addition, observe the manufacturer's instructions of the positioning system used.



Fabrication of a temporary restoration

The finished drilling template can be used to craft a long-term temporary restoration in the laboratory for the partially or fully edentulous jaw before the actual implantation is performed. Guide System insertion posts for integrating lab analogs in the working model are available, separately.

Drilling the holes for the lab analogs

The finished drilling template with the guiding sleeves is placed on the working model or snapped to the analogs of the temporary implants in the cast to mark the future implant positions on the model through the guiding sleeves. The template is then removed to grind the required cavities for placing the lab analogs of sufficient size, taking into account the implant axes in the plaster. In this way the guiding sleeves are not damaged by rotary instruments.

Note:

For easier mounting of the lab analogs, it is recommended that the relevant implant positions should be drilled through the model so that a suitable material (e.g. plaster, epoxy etc.) can be poured in from below later on. Lateral retentions in the holes serve as an antirotational mechanism securing device for the material introduced.

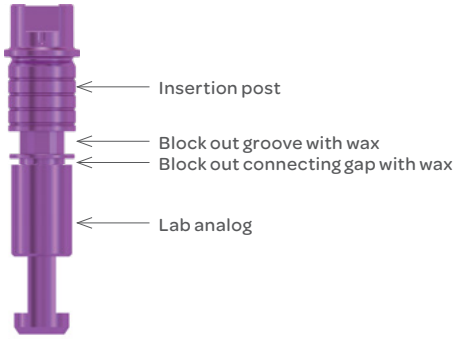
Application

Drilling template design and fabrication

Mounting the lab analogs

Before mounting, the lab analogs are screw-retained to the corresponding insertion posts, and both the connection gap and the groove on the insertion post above are blocked out with wax.

The lab analogs are inserted in the guiding sleeves of the template. Here, care must be taken to ensure that the orientation fits the position of the marking point on the top of the guiding sleeve. The orientation of the groove is identical to the position of the surfaces on the insertion post. The marking point on the top of the guiding sleeve and the surface of the insertion post must therefore meet up directly (see graphic).

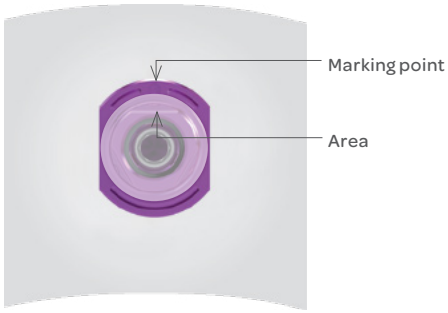


To ensure the correct position of the insertion posts, a sufficient quantity of wax is used to mount the insertion posts which are set in the exact position in the template.

The drilling template is placed on the working model or snapped into position on the analogs of the temporary implants. Here, the lab analogs may not come into contact with the walls of the drill holes in the model.

The lab analogs are then mounted in the model. For this purpose the mounting material (e.g. plaster, epoxy, etc.) is preferably poured from the underside of the model into the drill hole.

After the material has cured, the template is removed from the model by loosening the mounted insertion posts. Any residual wax on the coronal margin of the lab analogs is removed.



Template with insertion post, occlusal view

Fabricating the temporary restoration

The long-term temporary restoration can then be fabricated on the working model using, for example, bar components (Passive-Fit) or the temporary abutment as an esthetic, non-functional bridge restoration. To guarantee a tension-free seating, a temporary reconstruction must be bonded in the mouth to the bar bases or the temporary abutment respectively (Passive-Fit). For stability reasons, the implants should be splinted together with a temporary restoration. Temporary single tooth restorations can be fabricated on the temporary abutment in the conventional manner.

Alternatively, temporary restorations can be fabricated using CAD/CAM techniques.

Important notes:

- The shoulders of the insertion posts must lie on the top of the guiding sleeves. Only then is the exact final position achieved!
- For easier mounting of the lab analogs, it is recommended that the relevant implant positions should be drilled through the model so that a suitable material (e.g. plaster, epoxy etc.) can be poured in from below later on. Lateral retentions in the holes serve as an antirotational mechanism securing device for the material introduced.

Guide System surgery tray

Tray layout & reorder information

The drills are arranged and sorted in the set according to the treatment sequence.

PILOT DRILL

J5074.3305
J5074.3309
J5074.3311
J5074.3313
J5074.3316

J5074.4305
J5074.4307
J5074.4309
J5074.4311
J5074.4313
J5074.4316

J5074.5005
J5074.5007
J5074.5009
J5074.5011
J5074.5013
J5074.5016

GINGIVA PUNCH

J5041.3304

J5041.3804

J5041.4304

J5041.5004

HEX DRIVER

J5317.0501

J5317.0503

J5317.0502

INSERTION TOOL

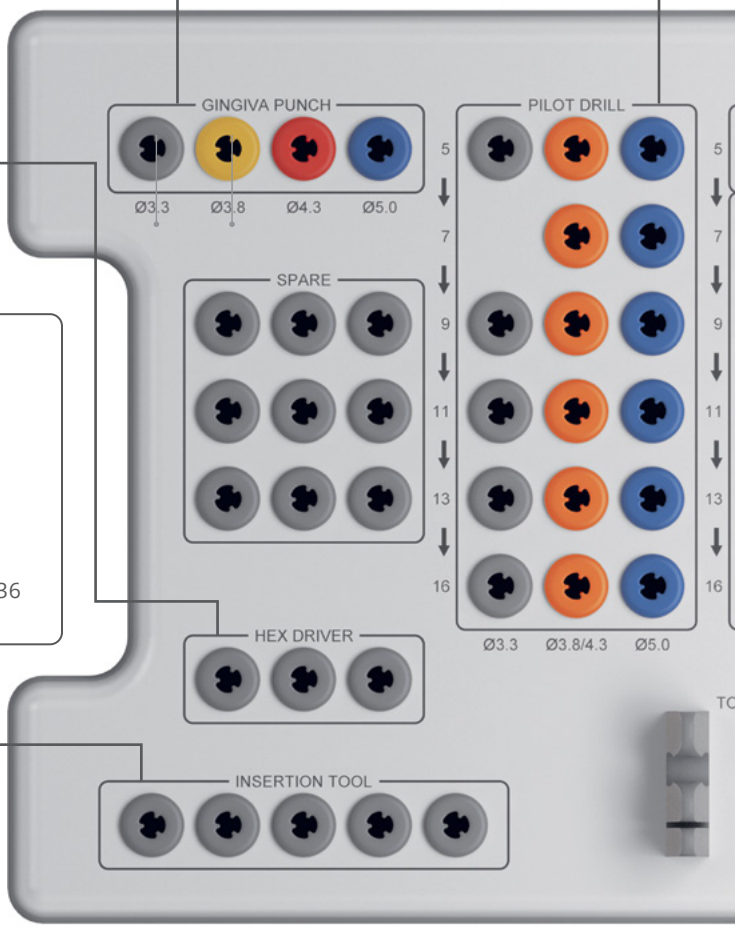
J5300.0031

J5300.0032

J5300.0033

J5300.0037

J5300.0036



Instructions for use:
http://ifu.camlog.com

PRE DRILL/FORM DRILL

J5076.3305
J5076.3309
J5076.3311
J5076.3313
J5076.3316

J5076.3805
J5076.3807
J5076.3809
J5076.3811
J5076.3813
J5076.3816

J5076.4305
J5076.4307
J5076.4309
J5076.4311
J5076.4313
J5076.4316

J5076.5005
J5076.5007
J5075.5009
J5076.5011
J5076.5013
J5076.5016

DENSE BONE DRILL

J5078.3309
J5078.3311
J5078.3313
J5078.3316

J5078.3807
J5078.3809
J5078.3811
J5078.3813
J5078.3816

J5078.4307
J5078.4309
J5078.4311
J5078.4313
J5078.4316

J5078.5007
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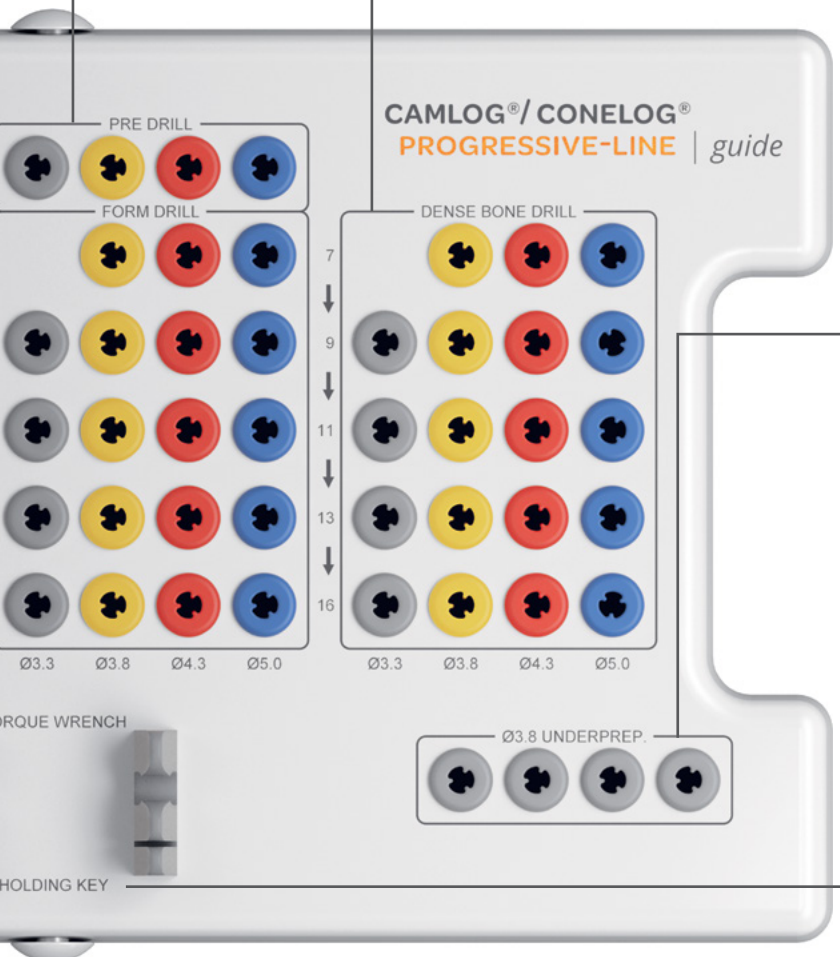
J5078.5013
J5078.5016



Ø 3.8 UNDERPREP

J5077.3316

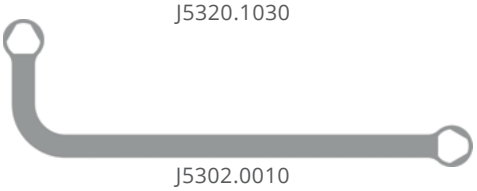
J5077.3313

J5077.3311

J5077.3309

TORQUE WRENCH/HOLDING KEY

J5320.1030



J5302.0010

Surgical procedure

Drilling sequence

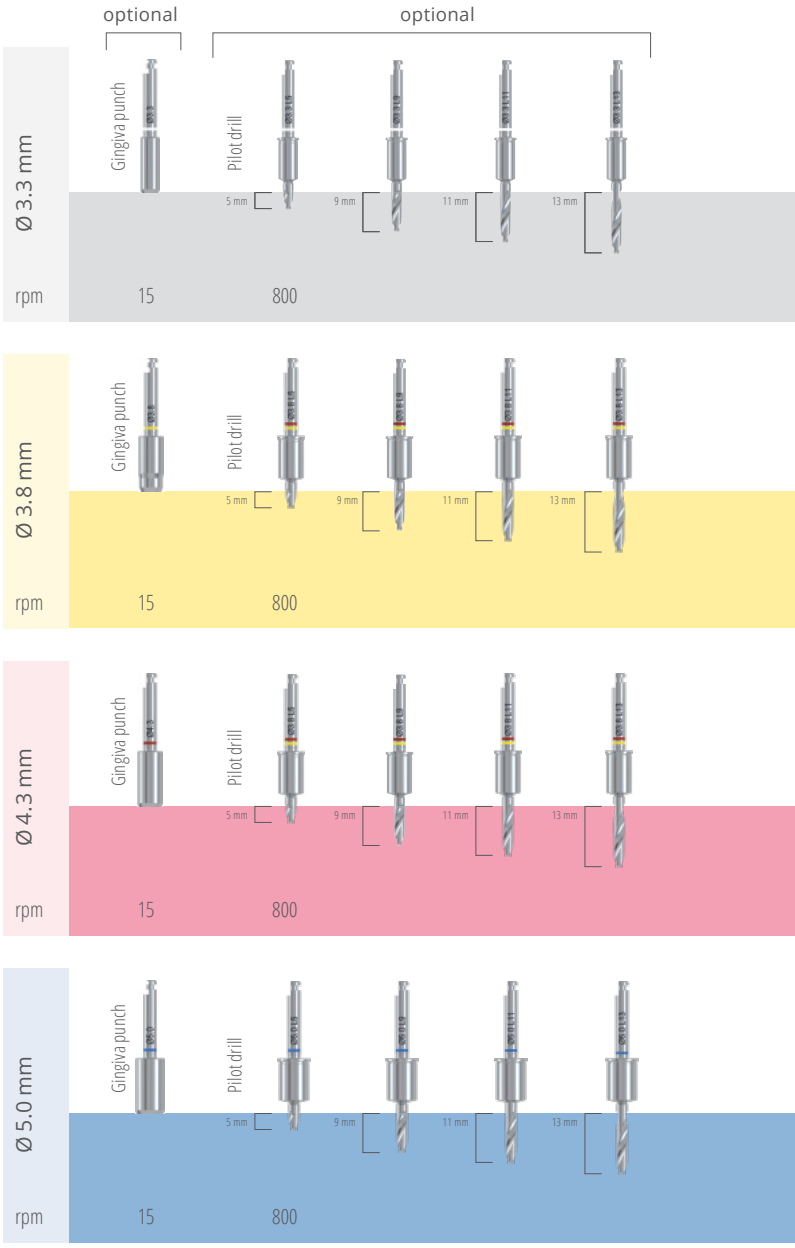
Standard drilling sequence for implant bed preparation

Overview of the implant bed preparation using the example of a CONELOG® PROGRESSIVE-LINE Promote® plus Implant, length 13 mm.

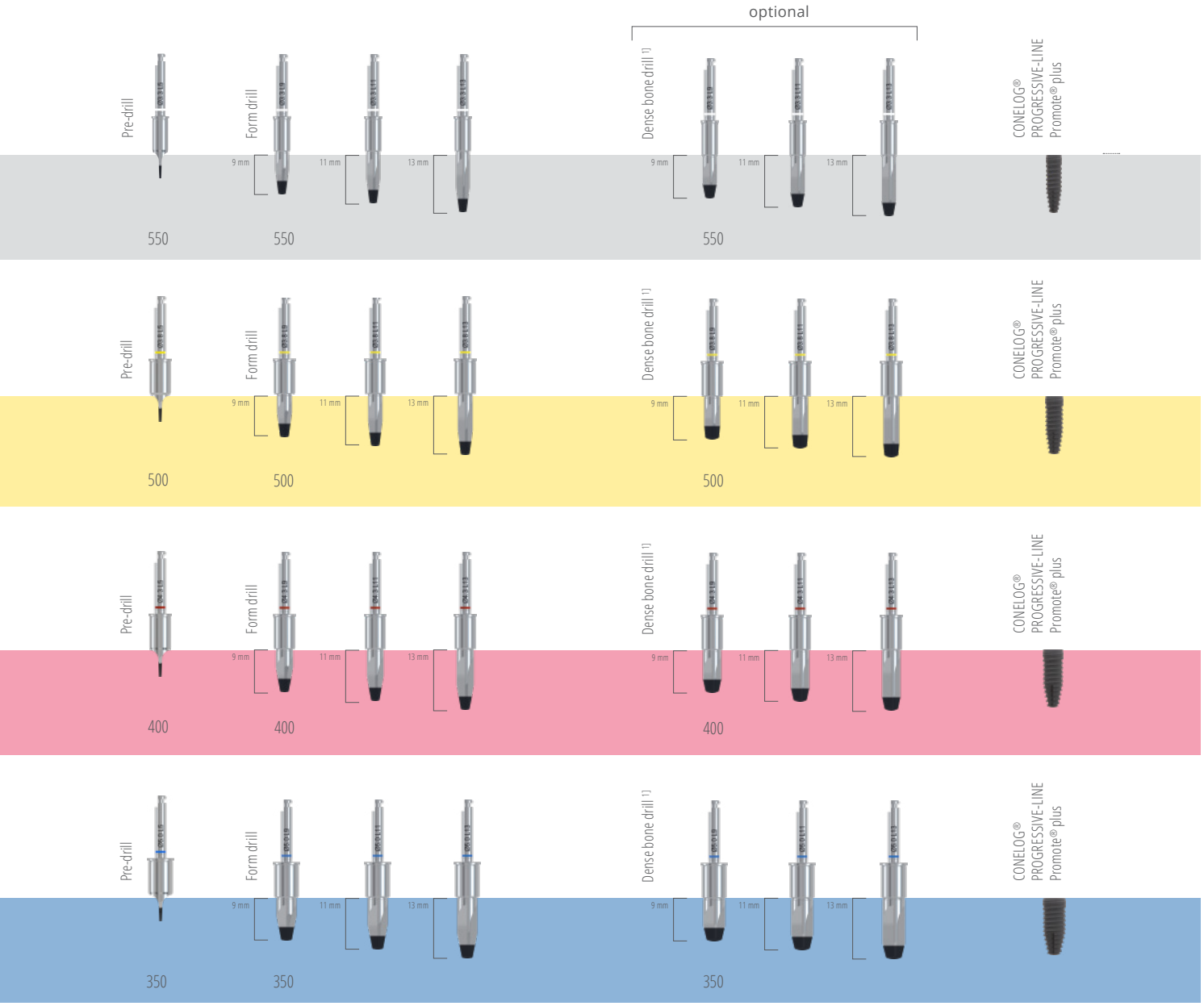
The standard drilling sequence for the PROGRESSIVE-LINE implant includes the following steps:

- Piercing of the gingiva at the implant position with the gingiva punch (optional) or conventional flap preparation.
- Pilot drilling with pilot drill(s) Ø 2.0 mm in ascending order of drill length, up to the defined implant length (optional).
- Pre-drilling with Guide System pre-drill PROGRESSIVE-LINE (mandatory).
- Form drilling with form drills in ascending drilling length up to the defined implant length.
- Use of the dense bone drill. 1]

1] For bone quality 1* and 2*, the use of the dense bone drill is required to reduce the insertion torque.



* See [B] in section "Further documentation" on page 37

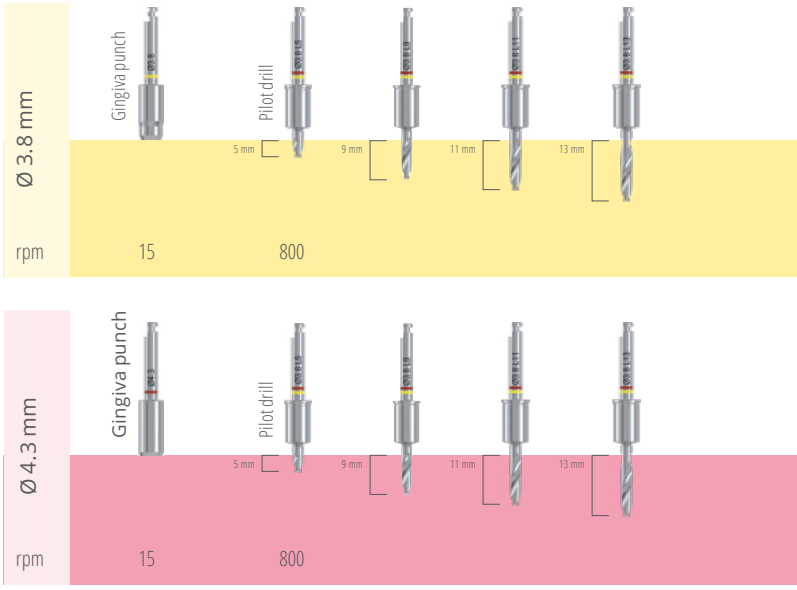


Surgical procedure

Drilling sequence

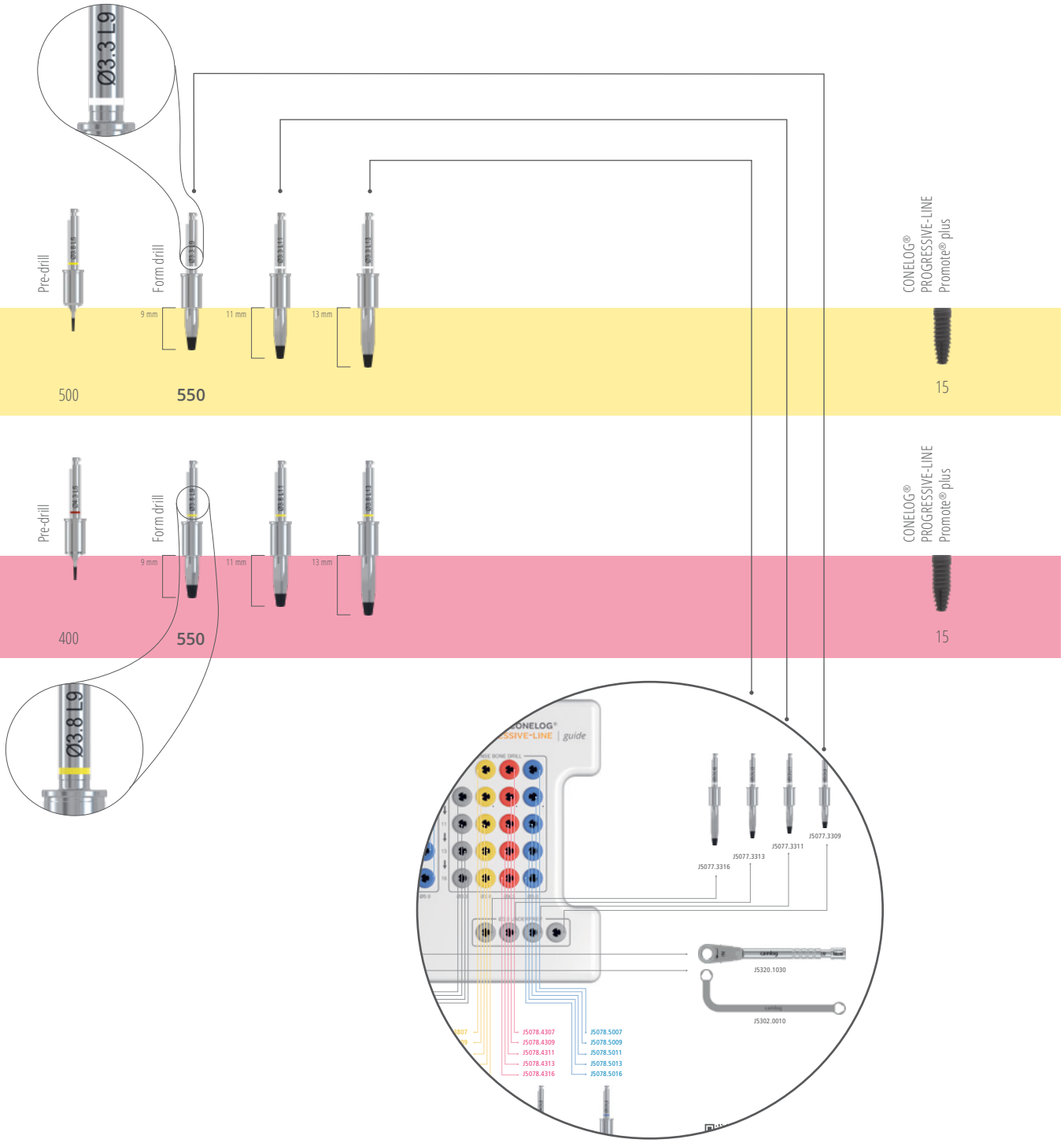
Alternative drilling sequence for soft bone

In particularly soft bone, it is sometimes advisable to underprepare the implant bed to achieve additional primary stability.
This is achieved by using a different drilling protocol after using the pre-drill according to the standard protocol. Instead of the form drills with diameters corresponding to the implant, the form drills with the next smaller diameter are used.
This ensures that the soft bone is condensed when the implants are inserted, which results in greater stability of the implants. The so-called «Guide Form Drills for Ø 3.8 mm underpreparation PROGRESSIVE-LINE» are used for the underpreparation of implants with 3.8 mm diameter. The usual PROGRESSIVE-LINE form drills with a diameter of 3.8 mm can be used for underpreparation of implants with a diameter of 4.3 mm.



Important note:

If the torque value is too high during insertion of the implants, it is necessary to revert to the standard protocol.



Surgical procedure
Implant bed preparation

Implant bed preparation

General
The diagnostic documentation and the previously prepared cleaned and disinfected drilling templates must be made available for surgical intervention.

Inserting the template and flap preparation
The cleaned, disinfected and if possible sterilized drilling template is placed in the mouth and checked for proper seating. In the edentulous or inadequately dentulous jaw, it is mounted to the previously placed temporary implants to ensure a stable seat. If the jaw is sufficiently partially edentulous, it can be supported on the residual teeth.

Creation of a gingival flap improves the visibility of the surgical field. Opening is necessary if the planning shows that a guiding sleeve of the drilling template will be positioned in soft tissue. For further details, see also the note under «X-ray diagnosis and implant position planning».

If the gingiva is open, the flap should not hinder correct positioning of the template.

Drill speeds and gingiva punch
Depending on the drill type and diameter, the maximum drill speeds (350-800 rpm) vary according to the table. (hand piece angle reduction ratio 16:1–20:1).
The maximum speed for gingiva punches is 15 rpm (contra-angle reduction 70:1-100:1).

Irrigation of drills
Irrigation is performed through external irrigation on the angled hand piece with sterile saline solution (pre-chilled to 5 °C/41 °F).

Drill life
Drill longevity depends on bone quality and the drilling technique. The drills are good for 10–20 drilling cycles. If excessive force has to be applied because of a dull drill, then change the drill immediately to prevent overheating of the bone.

CAUTION:

The maximum apical extension length of the drill is 0.5 mm.

General information on the Guide System Progressive-Line drills

- Pre- and form drills as well as the dense bone drill feature a black tip, which identifies them as PROGRESSIVE-LINE drills.
- To avoid abrasion of the guiding sleeves with drill cutting edges, the drill should not be set in rotation until its cylindrical guide shaft is in contact with inner surface of the guiding sleeve.
- The drills are used with an intermittent drilling technique, i.e. drilling the bone for two to three seconds and then withdrawing the drill upwards from the bone without stopping the hand motor. Repeat this procedure until the desired depth is reached.
- The drills are used in ascending lengths.

Important note:

The Guide System drills PROGRESSIVE-LINE are not internally irrigated but are reusable.

Description	Ø	max. speed (rpm)
Guide System gingiva punch	–	15
Guide System pilot drill	2.0 mm	800
Guide System pre-drill	3.3 mm	550
	3.8 mm	500
	4.3 mm	400
	5.0 mm	350
Guide System form drill	3.3 mm	550
	3.8 mm	500
	4.3 mm	400
	5.0 mm	350
Guide System form drill for Ø 3.8 mm underpreparation, Ø 3.3 mm	3.8 mm	550
Guide System dense bone drill	3.3 mm	550
	3.8 mm	500
	4.3 mm	400
	5.0 mm	350

Surgical procedure

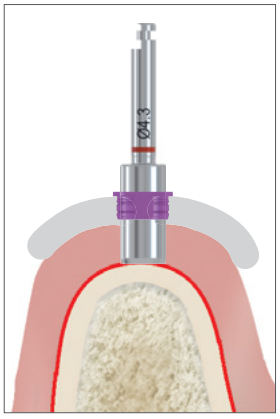
Implant bed preparation

Important note:

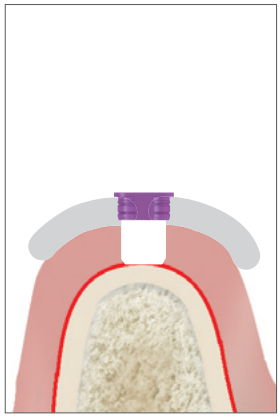
The standard protocol is described in detail below using an indication example demonstrating the insertion of a CONELOG® PROGRESSIVE-LINE Promote® plus implant size Ø 4.3 mm, L 13 mm.

Gingiva punching (optional)
As an alternative to conventional flap preparation of the soft tissue, the Guide System gingiva punch can be inserted into the guiding sleeve and the gingiva pierced and removed at the implant position. 15 rpm should not be exceeded if rotating insertion is used.

To prevent connective tissue encapsulation in the implant bed, any remaining gingiva must be removed from the drilling area and the marginal gingiva mobilized, if necessary.



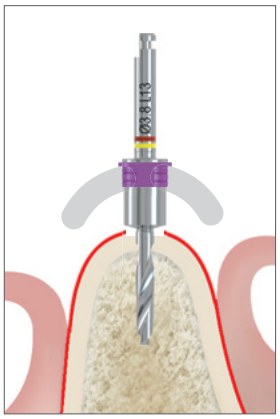
Using the gingiva punch


Situation after removal of the gingival plug

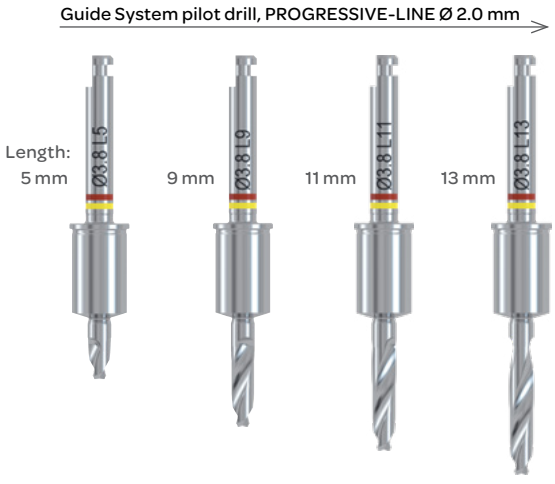
Pilot drilling (optional)

A. For bone condensation in weak bone
If bone density is insufficient at the implant site, a pilot drill hole 2.0 mm in diameter can be set. This drill hole is laterally extended with osteotomes, the surrounding bone being compressed. The compression ensures increased primary stability of the implant.

B. For improved guidance in bicortical implantation/ immediate implantation
In the case of a bicortical implant fixation or immediate implantation, the pilot drill hole can prevent the form drill from slipping off when it makes contact with the opposite cortex or alveolar wall. The pilot drill hole therefore provides additional guidance for the form drill. The pilot drill hole is drilled in ascending drill length (5, 9, 11, 13 and 16 mm) up to the desired implant length.



Pilot drilling with external irrigation



Drill sequence (for a CONELOG® implant Ø 4.3 mm, L 13 mm) in ascending order to extend the drill length to the defined implant length.

Max. speed 800 rpm

Surgical procedure

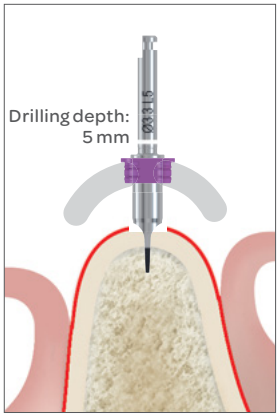
Implant bed preparation

Pre-drilling (mandatory)
Drilling into the cortex is performed using a Guide System PROGRESSIVE-LINE pre-drill with external irrigation.
The crestal area of the implant bed is definitively prepared with this drill.

This clearly defines the drill and implant axis insofar as no pilot drill hole has been made.

Guide System pre-drill PROGRESSIVE-LINE Ø 4.3 mm

Max. speeds:
Ø 3.3 mm 550 rpm
Ø 3.8 mm 500 rpm
Ø 4.3 mm 400 rpm
Ø 5.0 mm 350 rpm



Pre-drilling with external irrigation

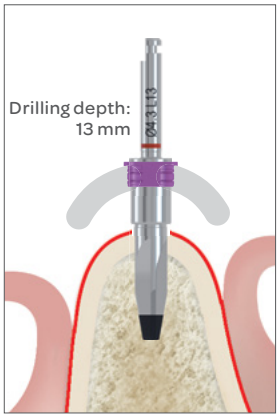
Form drilling
After pre-drilling, the implant bed is prepared up to the planned implant length in ascending drill length (9, 11, 13 mm) using the Guide System form drills PROGRESSIVE-LINE.

Length:
9 mm 11 mm 13 mm

Guide System form drill Ø 4.3 mm

Drill sequence (for a CONELOG® implant Ø 4.3 mm, L 13 mm) in ascending order to extend the drill length to the defined implant length.

Max. speeds:
Ø 3.3 mm 550 rpm
Ø 3.8 mm 500 rpm
Ø 4.3 mm 400 rpm
Ø 5.0 mm 350 rpm

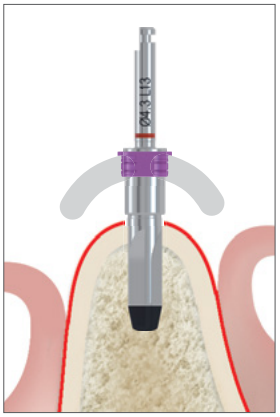


Form-drilling with external irrigation

Surgical procedure

Implant bed preparation

Dense bone drill (optional)
If implant bed preparation shows that cortical bone (bone qualities 1* and 2*) is predominant, the apical part of the implant bed can be widened with the dense bone drill, PROGRESSIVE-LINE, (see "Product Overview"). This has the effect of reducing the insertion torque of the implant.



Drilling with dense bone drill with external irrigation

The implant bed is to be rinsed with sterile saline solution prior to insertion of the implant to remove possible titanium chips (caused by contact of the drill cutting edges with the guiding sleeves).

Length:

9 mm 11 mm 13 mm

Guide System dense bone drill, 4.3 mm

Drill sequence (for a CONELOG® implant Ø 4.3 mm, L 13 mm) in ascending order to extend the drill length to the defined implant length.

Max. speeds:

Ø 3.3 mm 550 rpm

Ø 3.8 mm 500 rpm

Ø 4.3 mm 400 rpm

Ø 5.0 mm 350 rpm

Surgical procedure

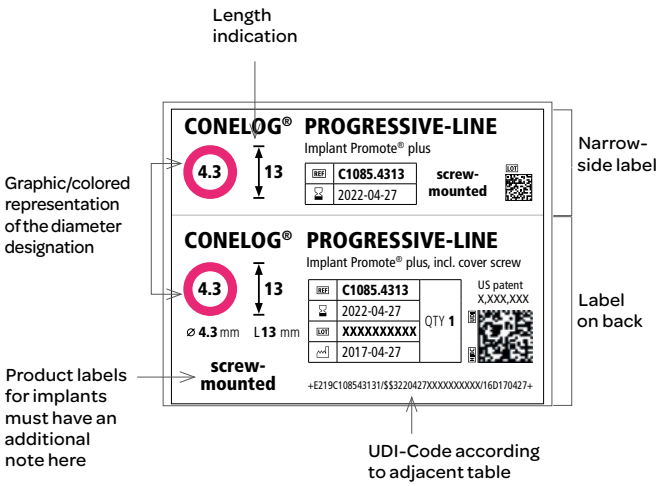
Implantation

General information on packaging and implant handling

A) Secondary packaging (cardboard box) with label:

The label on the secondary packaging contains relevant system information and is applied on three sides. This means that the label is clearly readable regardless of stacking of the packages.

Example product label on the secondary packaging for an implant with screw-mounted insertion post:



UDI CODE

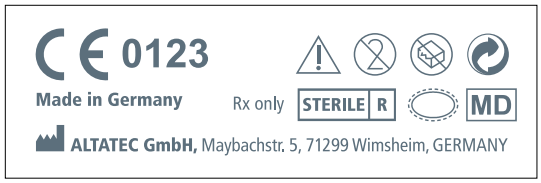
A B C DE F G H I J K

+ E219 C10854313 1 / $$3 220427 XXXXXXXXXX /16D 170427 +

Sections of the primary code (UDI-DI)	Code	Explanation
A	+	Protected HIBC-ID (1 digit)
B	E219	Manufacturer's code (ALTATEC)
C	C10854313	Article number (max. 13 digits)
D	1	Quantity index (number of packaging units, 1 digit)
Sections of the secondary code (UDI-DI)	**Code**	**Explanation**
E	/	Separator primary/secondary
F	$$3	Identifier for expiry date
G	220427	Expiry date (6 digits) 27.04.2022
H	XXXXXXXXXX	Manufacturer's batch (10 digits)
I	/16D	Identifier for date of manufacture
J	170427	Date of manufacture (6 digits) 27.04.2017
K	+	Variable test mark

Further information on the secondary packaging:
The bottom side of the CONELOG® Implant packaging refers to the instructions for use in electronic form: https://ifu.camlog.com. In addition, it includes a QR code which links directly to the corresponding Internet page.

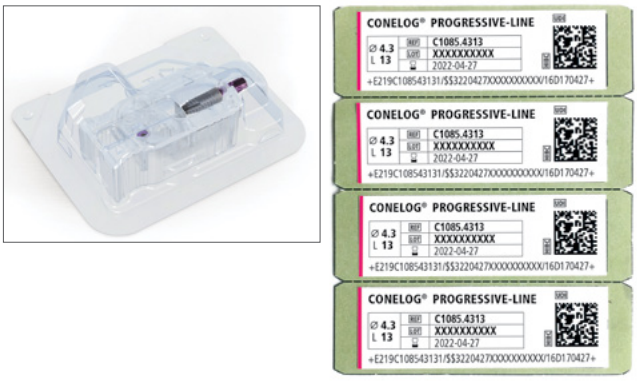
The left side view of the CONELOG® Implant packaging contains the CE label, the corresponding warnings as well as the address of the manufacturer.



Surgical procedure
Implantation

B) Transparent blister with Tyvek® foil and primary label:

The blister with the Tyvek® foil represents the primary packaging, the contents of which are sterile – implant holder with implant and cover screw. Furthermore, the secondary packaging includes four self-adhesive patient labels. These can, for example, be used for the patient records or the letter of referral. For faster identification, the diameter information is also highlighted in color here.



Important note:

One of these patient labels must be affixed to the patient's personal implant passport and handed over to the patient.

C) Implant holder with implant and cover screw:

The implant holder securely fixates the implant and the cover screw in the packaging. Both the implant and the cover screw can be released and removed via a simple click mechanism with the implant holder. Furthermore, the implant in the implant holder can be clearly identified even after the primary packaging has been removed: the implant diameter can be identified by the color coding of the insertion post and the cover screw.

D) Screw-mounted insertion posts:

The implant holder securely fixates the implant and the cover screw in the packaging. Both the implant and the cover screw can be released and removed via a simple click mechanism with the implant holder.

Furthermore, the implant in the implant holder can be clearly identified even after the primary packaging has been removed: the implant diameter can be identified by the color-coding of the insertion post and the cover screw.

Ø 3.3 mm	Ø 3.8 mm	Ø 4.3 mm	Ø 5.0 mm

Surgical procedure
Implantation

E) Drivers:
The implant can be picked up directly with the driver via the screw-mounted insertion post and removed from the implant holder. One of the five illustrated drivers can be used for this purpose.

The long drivers also allow the placement of implants in narrow and deep anatomical situations.

The three manual drivers for use with the wrench (long, short, extra short).

The two drivers with ISO shaft (long and short) for use with the angled hand piece.

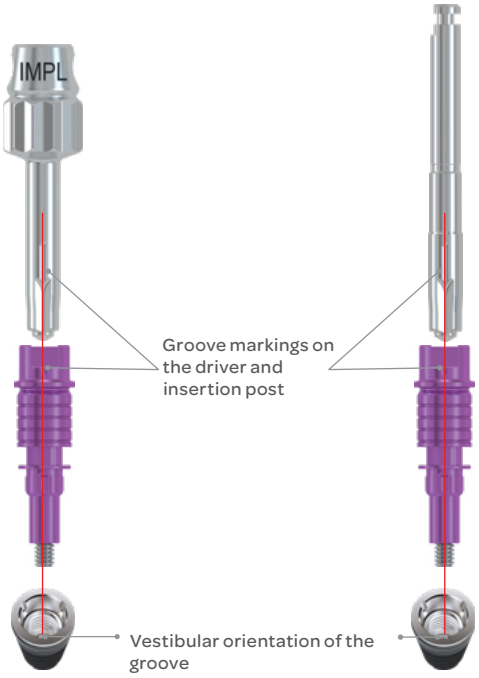
Please note the following when using the drivers:

Groove markings are applied to the driver and the insertion post which correspond to the three grooves of the implant-abutment connection. These permit a check of the groove positions during the insertion and their orientation as required for the prosthesis.

If the dental technician has not indicated the groove position, a vestibular orientation is advantageous in most cases since the angle of angulated abutments originates at a groove.

Manual driver for wrench

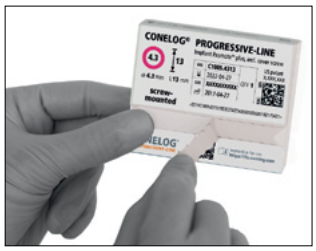
Hand piece driver with ISO shaft



Surgical procedure
Implantation

Opening the packaging and transfer of the implant holder to the sterile zone

The secondary packaging is opened with the perforated packaging tab.



> **Note:**
>
> If the perforated packaging tab is partially or fully open, the packaging is deemed damaged and the implant may no longer be used.

The four self-adhesive patient labels included with the blister, are intended for documentation purposes for example:

- Implant pass
- Letter of referral
- Patient records

The blister with the Tyvek® foil forms the sterile barrier. As long as the blister as well as the Tyvek® foil are undamaged, sterility of the content is assured.

Opening the blister

At the two sharp angle corners, the blister is fitted with tabs which allow easy separation of the Tyvek® foil from the blister.

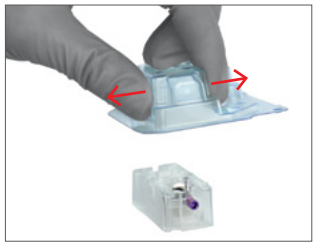
There are two ways to transfer the implant holder to the sterile zone
(A and B):

A: Discarding the implant holder onto the sterile shelf

The opened blister is gently compressed between two fingers in the marked position.

The blister is designed such, that the implant holder is retained in the blister as long as finger pressure is maintained. This allows controlled placement over the sterile shelf.

By releasing finger pressure, the holder can be discarded onto the sterile shelf in a controlled manner.



Surgical procedure
Implantation

B: Passing the implant holder to the implantologist

The opened blister is passed to the implantologist.

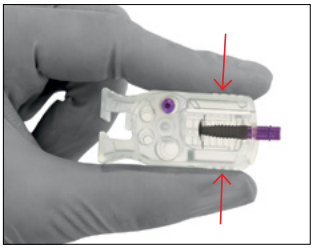
The implantologist takes the implant holder with two fingers at the intended place.

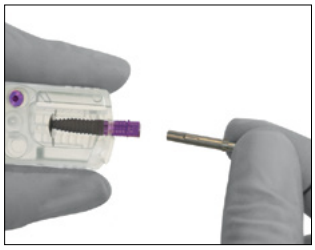
Then the implant holder can be used in the sterile zone.

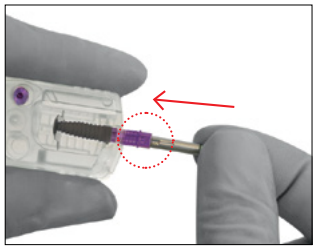
Picking up the insertion post with the manual driver

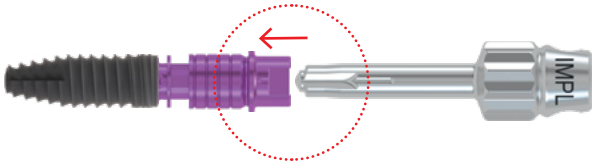
The front part of the implant holder is held between two fingers and the driver is mounted into the insertion post **by applying pressure.**

During the pick-up process, observe the correct alignment of the groove marking on the head of the insertion post and the driver.









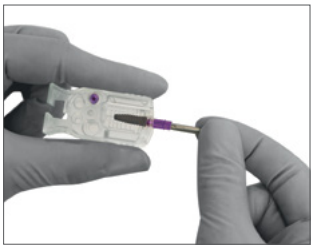
Observe the correct alignment and pick up forcefully!

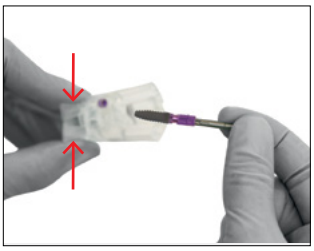
The three groove markings on the head of the insertion post serve easy picking up of the post with the driver, which is also fitted with the corresponding three markings.

Furthermore, the three groove markings on the driver and on the insertion post relate to the groove position of the implant-abutment connection.

Only after inserting the driver on the insertion post, press the implant holder together at the rear section (see arrows in the illustration) to release the lock on the implant holder and thus the implant.

Lift out the implant on the insertion post **upwards in a straight line** (do not bend).

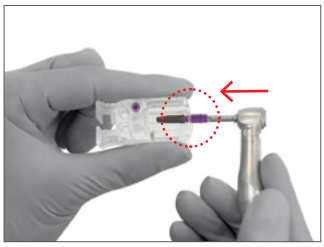


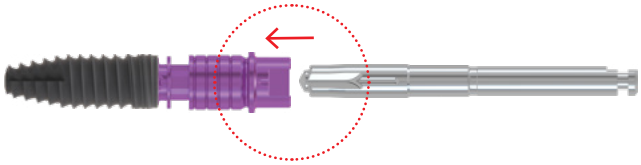


Surgical procedure
Implantation

Picking up the insertion post with the angled hand piece
Optionally, the insertion post can also be picked up directly with a hand piece driver (with ISO shaft) and angled hand piece: the front part of the implant holder is held with two fingers and then the insertion post is picked up with the hand piece driver or angled hand piece **by applying pressure.**

During the pick-up process, observe the correct alignment of the groove marking on the head of the insertion post and the driver.

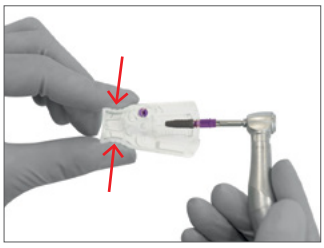




Observe the correct alignment and pick up forcefully!

Only after inserting the driver on the insertion post, press the implant holder together at the rear section (see arrows in the illustration) to release the lock on the implant holder and thus the implant.

Lift out the implant on the insertion post **upwards in a straight line** (do not bend).



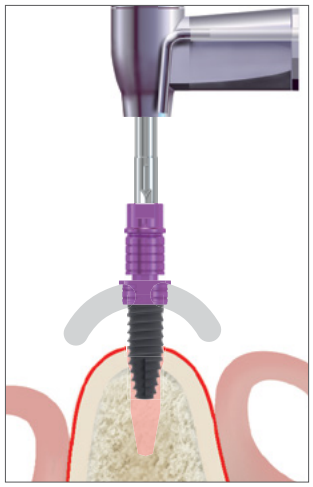
Surgical procedure
Implantation

Implant insertion & positioning
Using the driver, the implant is inserted into the coronal section of the implant bed and carefully screwed in clockwise either manually or with the angled hand piece (maximum speed may not exceed 15 rpm). Pay attention to the axial alignment of the implant bed.

Insertion of implant with a manual driver


Insertion of implant with a hand piece driver

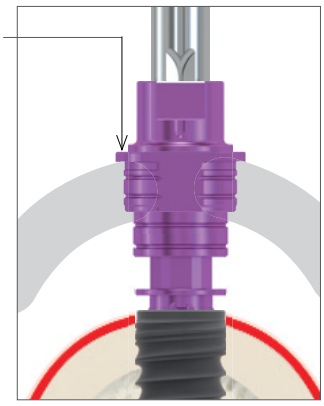
Screw insertion of implant with manual driver and wrench


Screw insertion of implant with a hand piece driver and angled hand piece (max. 15 rpm)

Important note:

The implant has reached the planned vertical end position when the shoulder of the insertion post rests on the top of the guiding sleeve.
After reaching the final position, the implant may not be rotated further in the template as this can lead to loss of primary stability.

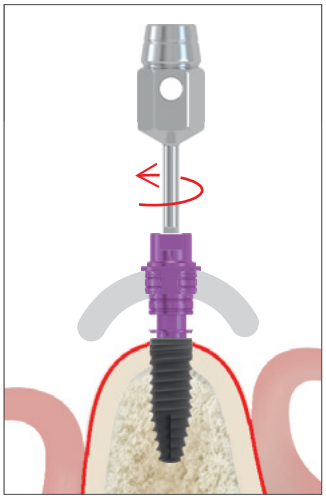
Final position: the driver rests on the upper side of the guiding sleeve.



Surgical procedure
Implantation

Removal of insertion post & template

Pull the torque wrench or angled hand piece and the driver off the insertion post, use the screwdriver, hex, to loosen the fixing screw of the insertion post and extract the insertion post (risk of aspiration!). In the case of low primary stability, Camlog recommends using the universal holding key to counter the insertion post when loosening the screw to prevent movement of the implant.



Loosen the screw inside the screw-mounted insertion post so that it can be pulled off.

The drilling template can now be removed.

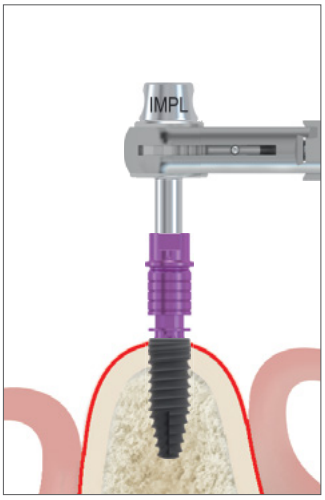
After the vertical end position has been reached, a longitudinal mark on the driver (position corresponds to the position of the grooves in the internal configuration of the implant) should be oriented towards the vestibule. If the orientation is defined by the preoperatively fabricated interim prosthesis, the longitudinal mark on the driver should be aligned with the marking point on the top of the sleeve.

If this is not the case, then fine adjustment is required.

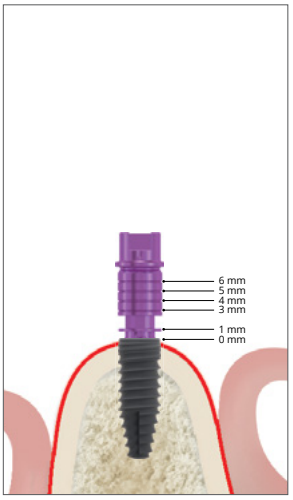
Fine adjustment of the implant position

The implant position can only be finely adjusted **after removing the template.** For this purpose, the insertion post and the drilling template must be removed. Then reinsert and tighten the insertion post, attach the driver incl. torque wrench and correct the groove position.

> **Note:**
>
> Keep in mind during positioning of the grooves that turning to the next groove position (120°) will cause the implant to be inserted appoximately 0.3 mm deeper.



Fine adjustment of the implant position



The markings on the insertion post provide orientation regarding the height of the soft tissue. This can act as an aid to selecting the prosthetic components.

* see [A] in section «Further documentation» on page 37

Surgical procedure
Implantation

Healing phase and patient information

The patient is to be informed about the measures and precautions to be taken during the healing phase, an appointment for follow-up care of the wound must be ensured and the updated implant passport with the affixed patient label is to be handed over.

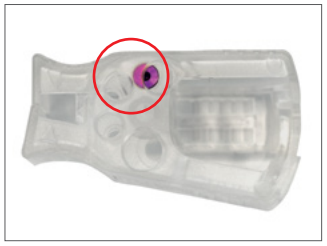
Submerged healing

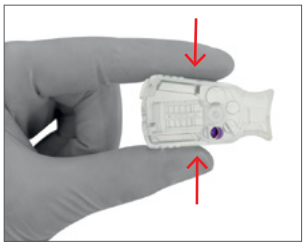
The cover screw for submerged healing is located in the middle section of the implant holder (red circle) in a provided well (Ø 3.3 mm, Ø 3.8 mm, Ø 4.3 mm and Ø 5.0 mm). It is protected against falling out.

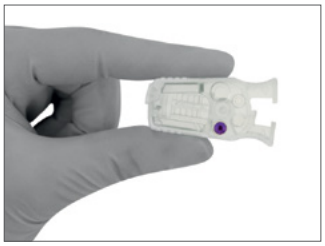
By closing (compressing) the implant holder (see arrows in illustration) the cover screw can be released. The screw is freely accessible after this procedure. Closing is only possible if the insertion post and implant are no longer contained.

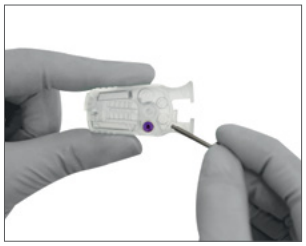
Using a screwdriver, hex, the cover screw can be picked up directly from the implant holder **applying pressure.**

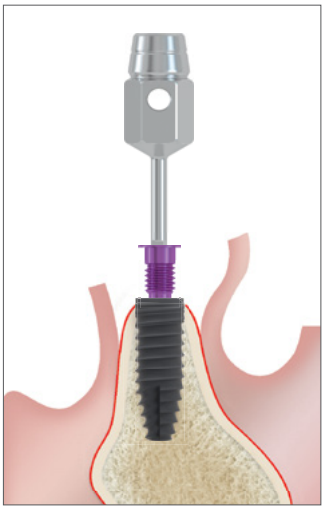
Pick up the cover screw with the screwdriver, hex, and insert it into the CONELOG® PROGRESSIVE-LINE Implant manually controlled (danger of aspiration!). The cover screw must only be tightened manually controlled using the hex screwdriver.



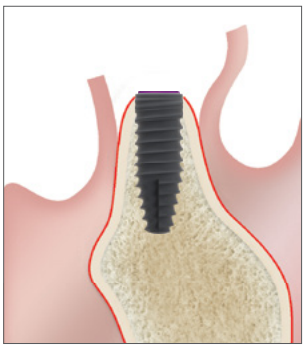




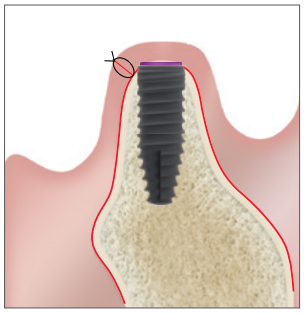




Manually controlled insertion of the CONELOG® Cover screw



CONELOG® PROGRESSIVE-LINE Implant with CONELOG® Cover screw



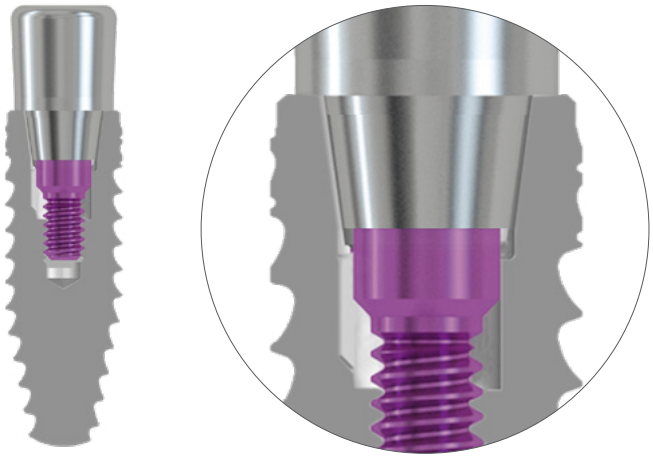
Wound closure

Healing options
Transgingival healing

Transgingival healing with CONELOG® PROGRESSIVE-Line Implants

The healing cap enables transgingival healing (one-time). The healing cap must match the implant diameter and the thickness of the gingiva. Confirm complete seating of the healing cap. In particular, ensure that no tissue is pinched between the implant shoulder and healing cap. The mucosa must fit tightly against the healing cap.

When preparing a flap, the wound margins are closed tightly with the appropriate suture material. Do not tie the sutures too tightly. They must placed in such a way that the wound margins are free of tension above the cover screw or around the healing cap or a provisional restoration.



Connection CONELOG® PROGRESSIVE-LINE Implant – CONELOG® Healing cap

CONELOG® Healing caps
Use of the CONELOG® Healing caps support the development of peri-implant soft tissue. CONELOG® Healing caps are available in three different geometries:

- cylindrical
- wide body
- bottleneck

The healing caps are color-coded to match the implant diameter.

CONELOG® Healing caps are screwed hand-tight into the CONELOG® PROGRESSIVE-LINE Implant with a screwdriver, hex, whereby the conical surfaces do not come into contact. The healing cap sits on the machined implant shoulder, but does not cover it completely. As a result, the soft tissue over the shoulder can be adapted.

Healing options

Transgingival healing (single-stage protocol)

Healing cap, cylindrical and wide body

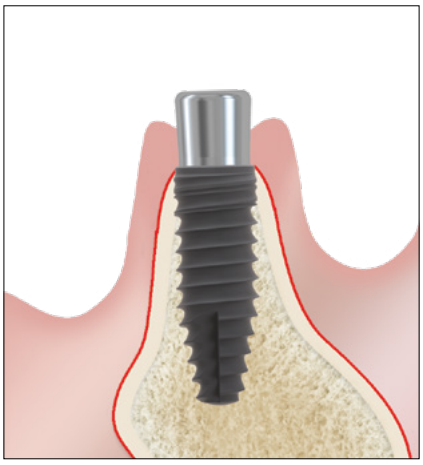
The cylindrical and wide body healing caps are for standard use. For insertion into the implant, a healing cap corresponding to the diameter, is screwed in manually using the screwdriver (hex driver). The gingival height is selected to ensure the healing cap lies supragingival by 1-1.5 mm. The impression is taken once the peri-implant soft tissue has been stabilized.

Healing cap, bottleneck

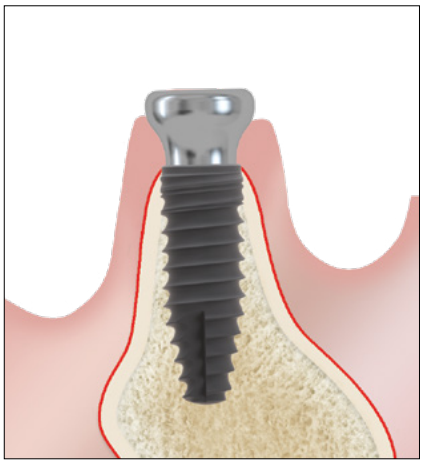
In esthetically challenging areas, the treatment outcome can be optimized by using healing caps, bottleneck. The coronally tapered crosscut enables soft-tissue generation during healing.

After 3–4 weeks (and before the final organization of the elastic fibers) a healing cap cylindrical is screwed in. No tissue should be excised.

The tissue is coronally suppressed and thereby forms a papilla-like structure. The impression is taken once the peri-implant soft tissue has stabilized.



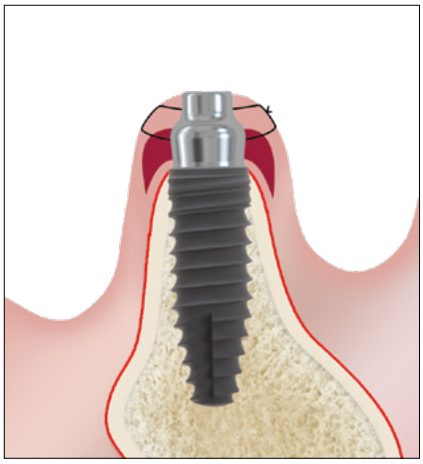
Healing cap, cylindrical



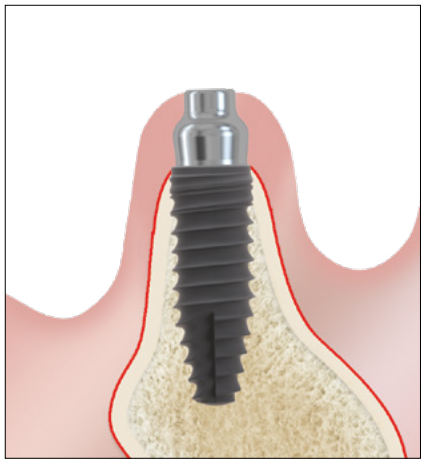
Healing cap, wide body

Single-stage surgery may be accomplished by placing a healing abutment at the time of implant surgery. This eliminates the need for a second procedure. Although the implant is not in occlusal function, some forces can be transmitted to it through the exposed transmucosal element.

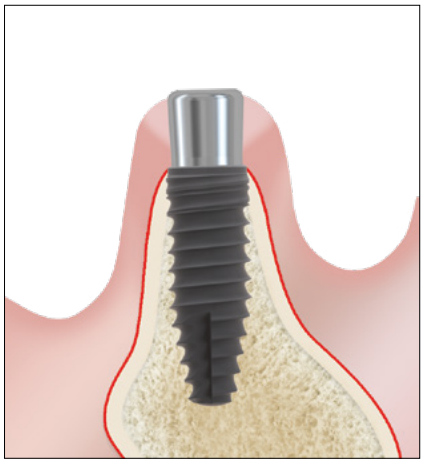
Prosthetic restoration starts as defined in the individual treatment plan and considers the individual situation of each implant placed.



Healing phase



Soft-tissue generation



Coronal suppression of the soft tissue by substitution with a Healing cap, cylindrical

Prosthetic restorations

Temporary & final prosthetic restorations

Temporary prosthetic restoration

Fabrication of the temporary restoration, see Page 14.

A temporary prosthetic restoration may only be inserted after ensuring that no mechanical friction is applied to the suture. If a temporary restoration is used, make sure that the implants are loaded appropriately in functional terms during the healing phase.

Immediate restoration/ immediate loading

To guarantee a tension-free seating, a temporary reconstruction must be bonded in the mouth to the bar bases or the temporary abutment (Passive-Fit). For stability reasons, the implants should always be firmly splinted together with a temporary restoration.

> **Note:**
>
> The temporary abutments made of PEEK may not remain in situ for longer than a maximum of 180 days.

Final prosthetic restoration

The final prosthetic restoration of the implant should be performed only after the soft tissue has healed completely and is not inflamed. Before starting the prosthetic restoration, radiographs should be taken after 6–12 weeks of healing.

Depending on the situation, the final prosthetic restoration is completed with the diameter-specific prosthetic system components of the CONELOG® Implant system respectively, or with individually fabricated DEDICAM® Prosthetics for fixed superstructures such as crowns and bridges, or hybrid restorations.

Impression taking can be carried out conventionally using the open or closed method, or else by scanning the oral situation.

Further documentation

Further information on the CONELOG® Products can be found in the following documents:

- CONELOG® Product catalogs
- CONELOG® Working instructions
- CONELOG® Instructions for use
- Preparation instructions
- Camlog literature overview
- Camlog and science

[A] Schwarz F, Alcoforado G, Nelson K, Schaer A, Taylor T, Beuer F, Strietzel FP. Impact of implant–abutment connection, positioning of the machined collar/microgap, and platform switching on crestal bone level changes. Camlog Foundation Consensus Report. Clin.Oral Impl. Res. 2014; 25(11): 1301-1303.

[B] Bone quality as documented in Lekholm U, Zarb GA. Patient selection and preparation. In: Branemark PI, Zarb GA, Albrektsson T, editors. Tissue-integrated prostheses-Osseointegration in Clinical Dentistry. Chicago: Quintessence Publishing Co. 1985; p.199–209.

See also:

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