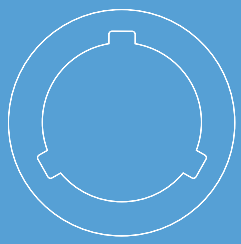
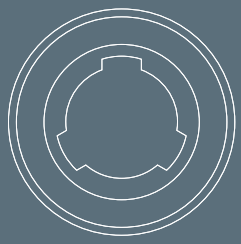
CAMLOG® SYSTEM



CONELOG® SYSTEM



COMFOUR™ OCCLUSALLY SCREW-RETAINED PROSTHETICS

PROSTHETIC OPTIONS ON CAMLOG® AND CONELOG® BAR ABUTMENTS

a perfect fit™

camlog

TABLE OF CONTENTS

GENERAL
SYSTEM INFORMATION

CAMLOG® AND CONELOG® IMPLANT SYSTEMS

CAMLOG® and CONELOG® Implant systems have been developed based on longstanding clinical and laboratory experience. The two systems are user-friendly and consistently prosthetical-oriented.

CAMLOG® and CONELOG® products are always manufactured using the most state-of-the-art technology. Both implant systems are continuously being 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 CAMLOG® Implant System is very well-documented scientifically. Studies support this with respect to a great many parameters including the implant surface, time of implantation and/or implant loading, primary stability, connection design or type of superstructure. 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 of the systems is strongly recommended. CAMLOG® and CONELOG® Products should only be used by dentists, doctors, surgeons and dental technicians who have been trained in using the system. Appropriate courses and training sessions are regularly offered by CAMLOG. Methodological errors in treatment can result in loss of the implant and significant loss of peri-implant bone.

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.

PRODUCT DESCRIPTION

COMFOUR™ SYSTEM

COMFOUR™ represents a system for several treatment options. It is a multi-varied concept with options for occlusal screw-retained bar, single tooth and bridge restorations on straight and angled CAMLOG® and CONELOG® Bar abutments. The major advantages are its versatility and the optimized product design, offering the user and patient greater comfort.

The concept enables occlusal screw-retained restorations and meets the patient's wish for immediate and comfortable dentures. COMFOUR™ saves time during use and offers clinicians and dental technicians greater flexibility. With its options for bar, single-tooth and bridge restorations, COMFOUR™ extends the prosthetic options available and has a number of impressive technical advantages such as its antirotation mechanism, pre-mounted flexible handle, as well as the Guide System-compatible aligning tool in 17° and 30° angles.

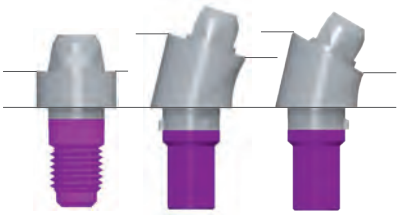
CAMLOG® AND CONELOG® BAR ABUTMENTS

The CAMLOG® and CONELOG® Bar abutments can be used to fabricate occlusally screw-retained crown, bridge and bar constructions in the maxilla and mandible for the restoration of CAMLOG® SCREW-LINE and ROOT-LINE 2 Implants as well as CONELOG® SCREW-LINE Implants.

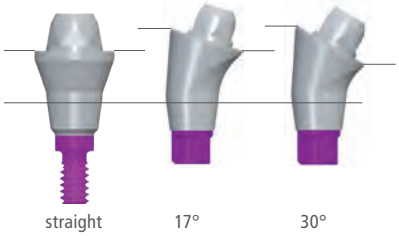
CAMLOG® and CONELOG® Bar abutments, including the associated prosthetic components, consist of prefabricated components precisely matched to one another and which standardize the clinical and technical procedure. The result is a lower workload and considerable time savings for the practice and the dental laboratory.

The bar abutments, which are color-coded according to the implant diameters, are available for the respective CAMLOG® and CONELOG® Implants in straight, 17° and 30° angled versions as well as various gingival heights.

CAMLOG®
gingival heights



CONELOG®
gingival heights



Note: In the case of the CONELOG® Bar abutments, the gingival height refers to the distance between the implant shoulder surface and the surface of the prosthetic platform of the bar abutment fixated finally in the CONELOG® Implant.

CAMLOG® and CONELOG® Bar abutments are available with prosthetic platform diameters of 4.3 mm and 6.0 mm, depending on the implant diameter.

Implant diameters	3.3/3.8/4.3 mm	5.0 mm
Prosthetic platform diameters	4.3 mm	6.0 mm

Prosthetic platform Ø

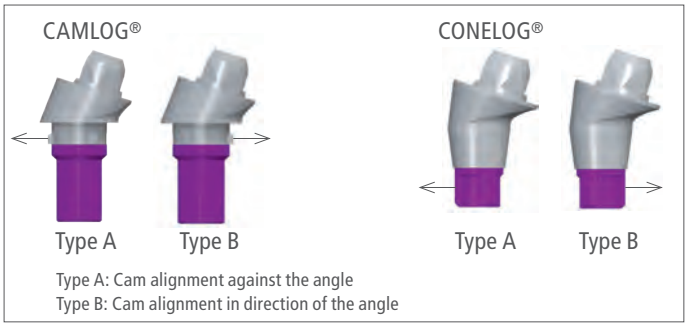
The corresponding prosthetic components fit both the CAMLOG® and CONELOG® Bar abutment versions. All bar abutments are made of titanium alloy (Ti6Al4V ELI) and are supplied sterile.

ANATOMICALLY CHALLENGING AREAS

17° and 30° angled CAMLOG® and CONELOG® Bar 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. This ensures optimum use of the bone supply.

ANGLED BAR ABUTMENTS TYPES A AND B

Angled CAMLOG® and CONELOG® Bar abutments are available as types A and B. Types A and B differ in having a 60° offset cam arrangement, thus allowing a total of six rotating positions together to obtain the optimal prosthetic axis. Type A has a cam alignment against the angle and type B has a cam alignment in direction of the angle.

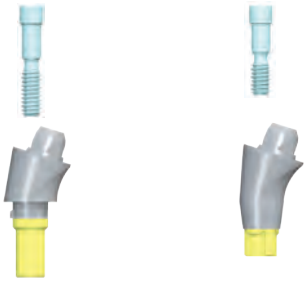


Type A: Cam alignment against the angle
Type B: Cam alignment in direction of the angle

FINAL INSERTION INTO THE IMPLANT

Straight CAMLOG® and CONELOG® Bar abutments are made as a single piece and screwed directly into the implant with the insertion tool for straight bar abutments.

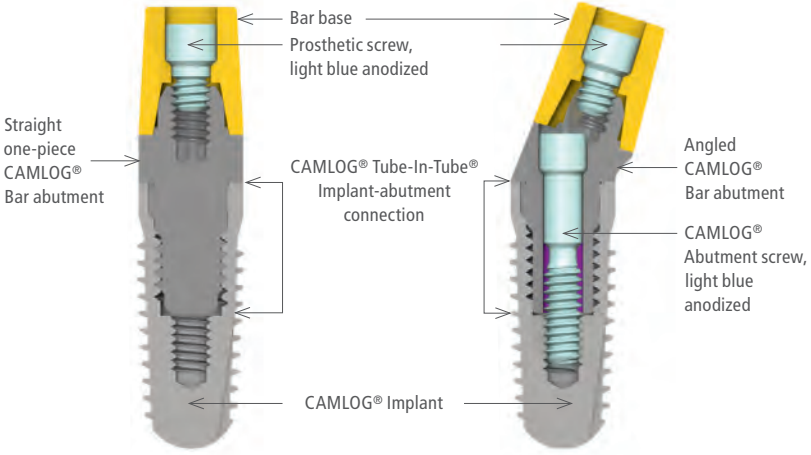
Angled CAMLOG® and CONELOG® Bar abutments are each supplied with a special abutment screw with reduced head (light blue anodized) for final screw retention in the implant.



To allow for easier transfer from the packaging, the angled CAMLOG® and CONELOG® Bar abutments are available packaged sterile with a premounted flexible handle made of PEEK.

CAMLOG® IMPLANT-ABUTMENT CONNECTION

The inner configuration of CAMLOG® Implants are provided with a Tube-in-Tube® Implant-abutment connection with three symmetrically arranged grooves as antirotational mechanism and for the positioning of angled CAMLOG® Bar abutments. Angled CAMLOG® Bar abutments are extended apically in the implant-abutment connection in tubular shape and feature three cams in the upper section which correspond to the three grooves in the implant. Angled bar abutments are fixated in the implant using an abutment screw. The straight CAMLOG® Bar abutments do not feature cams, they are manufactured as a single piece and equipped with an apical thread which engages into the inner thread of the CAMLOG® Implants. Bar bases are attached to the bar abutment with a prosthetic screw.



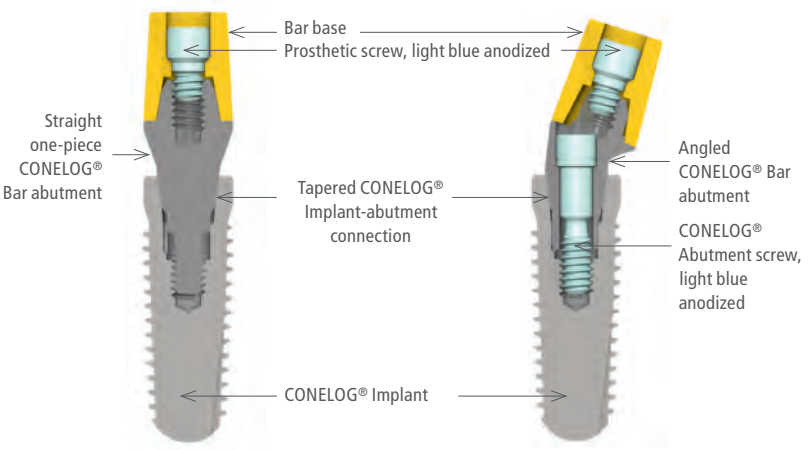
Straight CAMLOG® Bar abutment

Angled CAMLOG® Bar abutment

CAMLOG® Implant

CONELOG® IMPLANT-ABUTMENT CONNECTION

The inner configuration of CONELOG® Implants are provided with a taper as antirotational mechanism and three grooves for the positioning of angled CONELOG® Bar abutments. Angled CONELOG® Bar abutments are fitted apically with a taper and three cams and engage the tapered connection and the three grooves of the implant. Angled bar abutments are fixated in the implant using an abutment screw. The straight CONELOG® Bar abutments do not feature cams, they are manufactured as a single piece and equipped with an apical thread which engages into the inner thread of the CONELOG® Implants. Bar bases are attached to the bar abutment with a prosthetic screw.



Straight CONELOG® Bar abutment

Angled CONELOG® Bar abutment

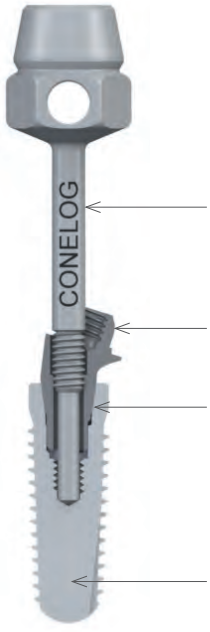
CONELOG® Implant

CONELOG® DISCONNECTOR FOR ANGLED CONELOG® BAR ABUTMENTS

Angled CONELOG® Bar abutments are removed from or pushed out of the implants and lab analogs using the CONELOG® Disconnector. First the CONELOG® Abutment screw or CONELOG® Lab screw is removed and the disconnector is screwed into the screw canal until the bar abutment releases from the internal taper of the CONELOG® Implant or lab analog. If the bar abutment does not come loose, the torque wrench (locked setting) can be placed on the disconnector and the bar 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



CONELOG® Disconnector

Angled CONELOG® Bar abutment

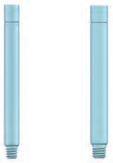
CONELOG® Implant-abutment connection

CONELOG® Implant

SCREWS FOR CAMLOG® AND CONELOG® BAR ABUTMENTS

TYPES OF SCREWS	COLOR	ART. NO.		TIGHTENING TORQUE
Abutment screw with reduced head, hex, for final fixation of angled bar abutments in the CAMLOG® or CONELOG® Implant, titanium alloy (Ti6Al4V ELI)	light blue	CAMLOG® M1.6/M2.0 J4004.1601/2001 	CONELOG® M1.6/M2.0 C4004.1601/2001 	20 Ncm (intraoral)
Lab screw with reduced head, hex, for fixation of angled bar abutments in the CAMLOG® or CONELOG® Lab analog, titanium alloy (Ti6Al4V ELI)	light blue partially anodized	CAMLOG® M1.6/M2.0 J4004.1600/2000 	CONELOG® M1.6/M2.0 C4004.1600/2000 	Hand-tight (extraoral)
Prosthetic screw for bar abutment, hex, for final fixation of crowns, bridges and bar constructions and for scanning cap*, titanium alloy (Ti6Al4V ELI)	light blue	M1.6/M2.0 J4012.1601/2001 		15 Ncm (intraoral) *only hand-tight for scanning cap
Lab prosthetic screw for bar abutment, hex, for fabrication of crowns, bridges and bar constructions and for scanning cap on the bar lab analog, titanium alloy (Ti6Al4V ELI)	brown	M1.6/M2.0 J4013.1601/2001 		Hand-tight (extraoral)
Prosthetic screw for bar abutment, hex, only for fabrication of the wax-up on the burn-out sleeve for titanium bonding base, passive-fit, on the bar-lab analog, titanium alloy (Ti6Al4V ELI)	titanium-colored	M1.6/M2.0 J4005.1602/2002 		Hand-tight (extraoral)
Plastic screw for bar abutment, hex, as fixation and bonding aid, PEEK (Poly ether ether ketone), sterile	beige	M1.6/M2.0 J4009.1627/2027 		Hand-tight (intra and extraoral)

SCREWS FOR CAMLOG® AND CONELOG® BAR ABUTMENTS

TYPES OF SCREWS	LENGTH	COLOR	ART. NO.	TIGHTENING TORQUE
Screw, hex, for bar abutment, for open tray impression taking and soldering, can be shortened extraorally by 2.5 mm, titanium alloy (Ti6Al4V ELI), sterile	10 mm	light blue	M1.6/M2.0 J4012.1610/2010 	Hand-tight (intra and extraoral)
	15 mm		M1.6/M2.0 J4012.1615/2015 	
	20 mm		M1.6/M2.0 J4012.1620/2020 	

SCREW THREAD SIZES

BAR ABUTMENT	CAMLOG®/CONELOG®	CAMLOG®/CONELOG®
Implant-Ø	3.3/3.8/4.3 mm	5.0 mm
Screw thread	M 1.6	M 2.0

APPLICATION

PLACEMENT OF BAR ABUTMENTS IN THE IMPLANT

PLACEMENT OF STRAIGHT BAR ABUTMENTS IN THE IMPLANT

After determination of the appropriate gingival height, the bar abutments are inserted into the implants.

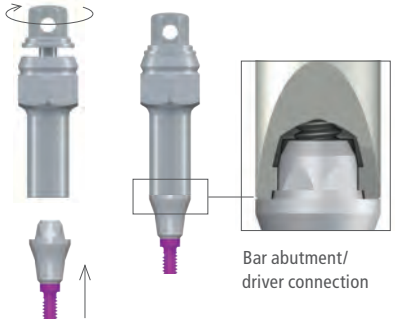
The prosthetic platform of the bar abutments should be approx. 0.5 mm supragingival.

Straight CAMLOG® and CONELOG® Bar abutments are screwed into the implant with the driver for straight bar abutments.

DRIVER FOR STRAIGHT CAMLOG® AND CONELOG® BAR ABUTMENTS

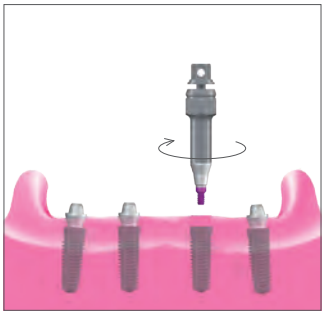
for Ø 3.3/3.8/4.3 mm

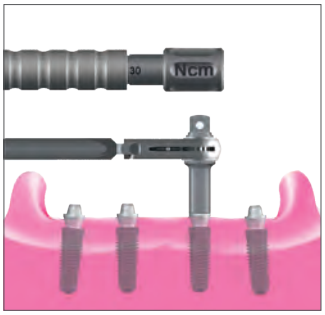
für Ø 5.0 mm



To this purpose, the bar abutments are inserted into the driver. A screw integrated in the driver secures the abutment. The screw is tightened by hand.

The bar abutments are inserted into the previously cleaned implants and the torque wrench is then used for final tightening of the abutments in the implants according to the specified tightening torque.





Tightening torque for straight CAMLOG® and CONELOG® Bar abutments:
Bar abutment for implant-Ø 3.3 mm: **20 Ncm**
Bar abutment for implant-Ø 3.8/4.3/5.0 mm: **30 Ncm**
To obtain maximum pre-tensioning of the screw, retighten with the same torque after approx. 5 minutes!

PLACEMENT OF ANGLED BAR ABUTMENTS IN THE IMPLANT

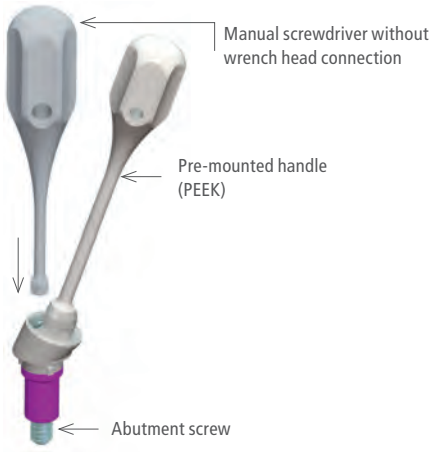
Angled CAMLOG® and CONELOG® Bar abutments are transferred into the implant using the pre-mounted handle made of PEEK. Then tighten the abutment screw hand-tight using the manual screwdriver without torque wrench head connection.

CAMLOG®

CONELOG®

TIP: Already insert the manual screwdriver with attached abutment screw into the abutment prior to placing the angled bar abutment. This procedure facilitates tightening of the abutment screw.

Then unscrew the (PEEK) handle counter-clockwise from the occlusal bar abutment thread and remove the manual screwdriver. Then the abutment screw is tightened finally with the torque wrench and a screwdriver, hex, manual/wrench or ISO shaft at **20 Ncm.** To obtain maximum pre-tensioning of the screw, the abutment screw needs to be retightened with the same torque after approx. 5 minutes!



ALIGNING TOOL FOR ANGLED BAR ABUTMENTS

Using the aligning tools for angled bar abutments (17° and 30°), the axis and groove alignments of the CAMLOG® and CONELOG® Implants can be checked during implantation and prior to placing the angled bar abutments. To this purpose, place the aligning tools over the insertion posts in the implants, the alignments and insertion directions are represented visually.

If necessary, the user can slightly adjust the alignment of the grooves of the inner implant configuration. To correct groove alignment, the holding key for insertion post or the driver for implants with blocked torque wrench are placed on the aligning tool and alignment is corrected accordingly. The aligning tools are made of stainless steel and also act as aid for choosing between 17° and 30° angled CAMLOG® or CONELOG® Bar abutments.

WARNING:
When aligning the implants, care must be taken not to drive the implants beyond the prepared implant bed (risk of fracturing the insertion post and possible deformation of the aligning tool). If necessary, the implant needs to be unscrewed slightly for alignment purposes.

Screwdriver, hex

Manual/wrench

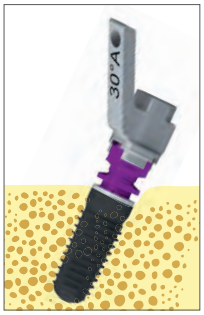
ISO shaft

The special design of the angled CAMLOG® and CONELOG® Bar abutments requires the exclusive use of screwdrivers, hex, with Art. No. J5317.0501/0502/0503/0504/0510 for tightening the abutment screws with reduced head!

Aligning tools for angled bar abutments, for implant insertion posts

17° angle

30° angle



IMPRESSION TAKING OPTIONS

IMPRESSION TAKING OVER CAMLOG® OR CONELOG® BAR ABUTMENTS

The components described in the following are compatible with all CAMLOG® and CONELOG® Bar abutments. The impression is taken directly on the screw-retained bar abutment in the implant.

IMPRESSION CAP FOR BAR ABUTMENT, CLOSED TRAY, FOR IMPRESSION TAKING FOR BRIDGE AND BAR RESTORATIONS

The impression caps are available for implant diameters 3.3/3.8/4.3 mm and 5.0 mm. The impression caps are partially light blue anodized, made of titanium alloy (Ti6Al4V ELI) and supplied sterile. The caps do not have an antirotational mechanism and can only be used for the fabrication of bridge and bar constructions.

Impression caps for bar abutments, closed tray

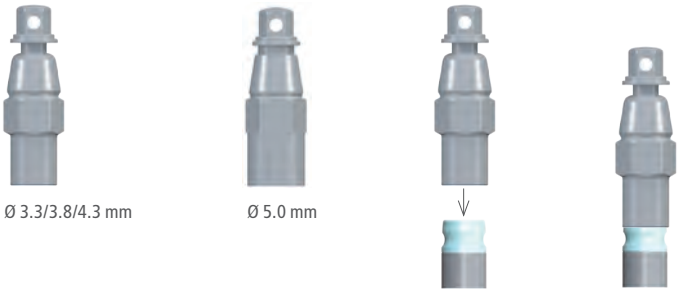
Implant Ø 3.3/3.8/4.3 mm
PP-Ø 4.3 mm

Implant Ø 5.0 mm
PP-Ø 6.0 mm

PP-Ø: Prosthetic platform diameter

For impression taking, the cap is inserted into the driver for impression caps for bar abutments.

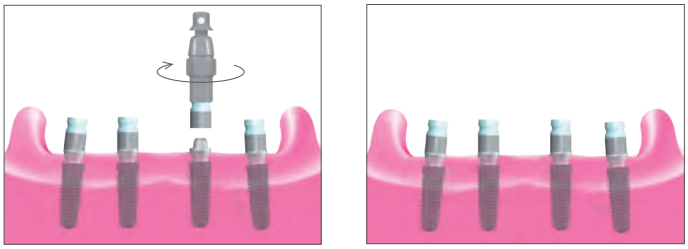
Driver for impression caps for bar abutments



Ø 3.3/3.8/4.3 mm

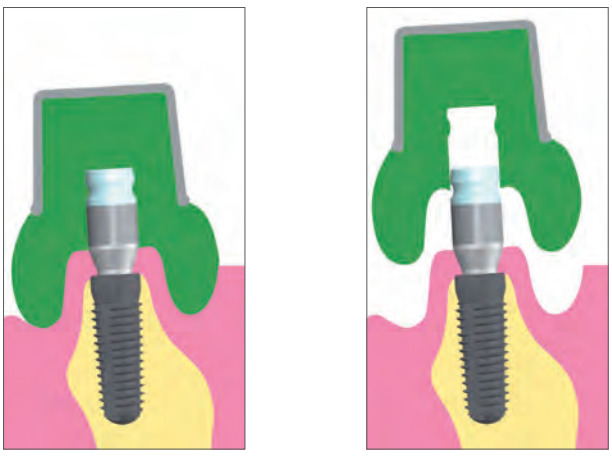
Ø 5.0 mm

Then the impression cap is screwed hand-tight to the finally fixated bar abutment in the implant. Impression taking is performed directly over the prosthetic platform of the CAMLOG® and CONELOG® Bar abutments.

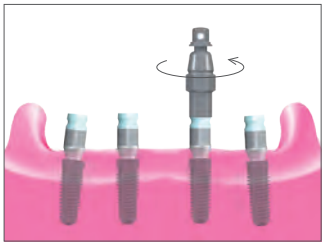


A closed tray is suitable for impression taking. The impression is then taken with silicone or polyether impression material.

After removing the impression, the impression cap remains on the bar abutment.



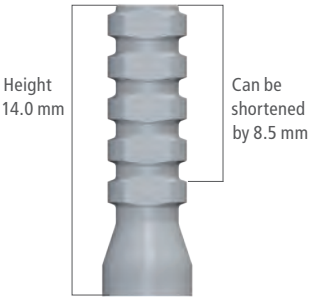
The impression caps are again connected to the driver for impression caps and unscrewed from the bar abutment. The bar abutments remain in the implants. The impression caps are handed over to the dental laboratory.



TITANIUM CAPS FOR BAR ABUTMENTS FOR OPEN TRAY IMPRESSION TAKING

The titanium caps for bar abutments are available with and without anti-rotational mechanism and can be used for direct impression taking on the bar abutments. They are made of titanium alloy (Ti6Al4V ELI), can be shortened individually and are available packed with a light blue anodized prosthetic screw.

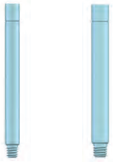
	Titanium cap for bar abutment, for crown, with antirotational mechanism, incl. prosthetic screw		**Titanium cap for bar abutment,** for bridge, incl. prosthetic screw	
ART. NO.	J2259.4301	J2259.6001	J2259.4302	J2259.6002
Implant-Ø	3.3/3.8/4.3 mm	5.0 mm	3.3/3.8/4.3 mm	5.0 mm
				



Light blue anodized screws, hex, in various lengths are available for fixation of the caps for impression taking directly on the bar abutments. See also information on screw thread sizes M1.6 and M2.0 on page 9.

The caps can be shortened occlusally by 8.5 mm up to and including the fourth chamfer.

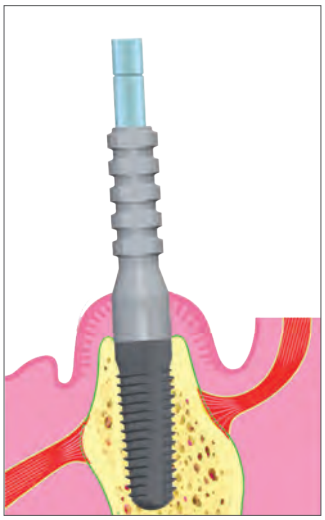
SCREW, HEX, FOR BAR ABUTMENT, for open tray impression taking and soldering, can be shortened extraorally by 2.5 mm, titanium alloy (Ti6Al4V ELI)

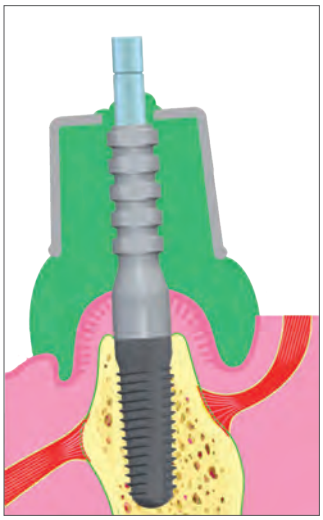
Length	10 mm	15 mm	20 mm
			
Thread	M1.6/M2.0	M1.6/M2.0	M1.6/M2.0
ART. NO.	J4012.1610/2010	J4012.1615/2015	J4012.1620/2020

The titanium cap is fixated hand-tight on the bar abutment with a corresponding screw using a screwdriver, hex.

Inject impression material around the cap, fill impression tray with impression material and insert. After curing the impression, the screw is loosened and extracted. After removing the impression, the cap remains in the impression.

The bar abutments remain in the implants and can be restored temporarily with healing caps for bar abutments. Forward the impression and the cap including fixing screw to the dental laboratory.





IMPRESSION-TAKING BY SCANNING

The scanning cap for bar abutments is used to visually record in 3 dimensions the prosthetic platform (including alignment of the hex surface) of CAMLOG® or CONELOG® Bar abutments in the mouth or of bar lab analogs on the working model.

Scanning caps for bar abutments are fitted with an antirotational mechanism and are available for implant diameters 3.3/3.8/4.3 mm and 5.0 mm. The scanning caps for bar abutments are made of PEEK (Poly ether ether ketone) and are supplied sterile, each with a prosthetic screw (light blue anodized). The prosthetic screw is hand tightened for fixation of the scanning cap using a screwdriver, hex.

NOTE
The geometries of the scanning cap for bar abutments can be found in the corresponding CAD libraries under www.camlog.com (early 2016). The user must correctly allocate these geometries to the scanning caps used in the mouth or on the model. It is essential to correctly match the two datasets from the scan and the CAD library.

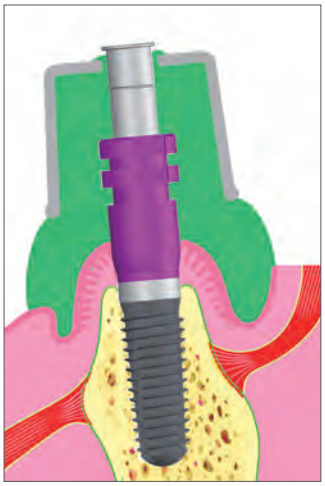
Scanning caps for bar abutments, incl. prosthetic screw

Ø 3.3/3.8/4.3 mm

Ø 5.0 mm

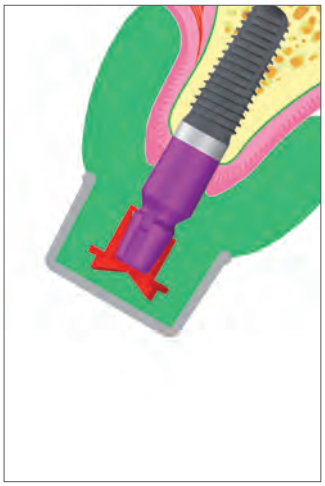
IMPRESSION TAKING IN THE CAMLOG® IMPLANT

With this method, the impression without bar abutment is taken directly over the CAMLOG® Implant shoulder, optionally with a color-coded CAMLOG® Impression post, open or closed tray. The impression posts are equipped with fixing screws and are hand-tightened on the implant using a screwdriver, hex.



CAMLOG® IMPRESSION POSTS, OPEN TRAY

ART. NO.	K2121.3300	K2121.3800	K2121.4300	K2121.5000
CAMLOG® 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



CAMLOG® IMPRESSION POSTS, CLOSED TRAY

ART. NO.	K2110.3300	K2110.3800	K2110.4300	K2110.5000
CAMLOG® 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

This impression taking method requires for the cast fabrication the use of a CAMLOG® Lab analog of the same color.

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

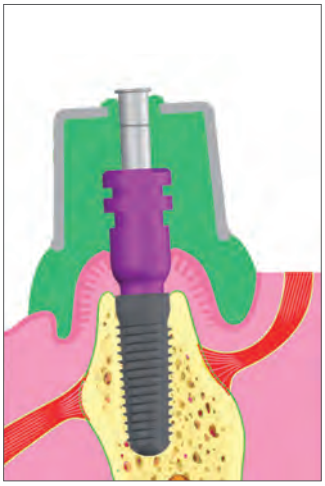
PH: Prosthetic height

IMPRESSION TAKING IN THE CONELOG® IMPLANT

The impression of the CONELOG® Implants is taken directly in the implant without bar abutment, optionally with a color-coded CONELOG® Impression post, open or closed tray. The fixing screws of the impression posts are hand-tightened on the implants using a screwdriver, hex.

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



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

Cast fabrication is executed with a CONELOG® Lab analog of the same color.

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

Detailed information on the described impression taking methods for CAMLOG® and CONELOG® Implants are given in the corresponding CAMLOG® and CONELOG® work instructions.

PH: Prosthetic height

CAST FABRICATION

CAST FABRIACTION WITH BAR LAB ANALOGS

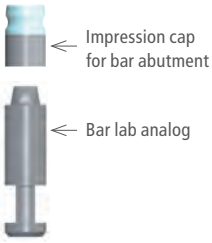
If the impression was taken with the impression cap or titanium cap for bar abutments directly over the CAMLOG® and CONELOG® Bar abutments, then a bar lab analog is used for fabrication of the cast.

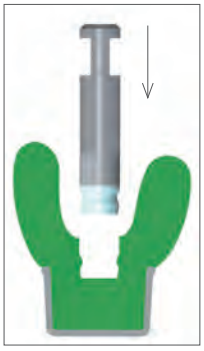
	Impression cap for bar abutment, closed tray, for bridges and bars, light blue partially anodized		**Titanium cap for bar abutment,** open tray, for crowns, with antirotational mechanism		**Titanium cap for bar abutment,** open tray, for bridges	
ART. NO.	J2129.4300	J2129.6000	J2259.4301	J2259.6001	J2259.4302	J2259.6002
Implant-Ø	3.3/3.8/4.3 mm	5.0 mm	3.3/3.8/4.3 mm	5.0 mm	3.3/3.8/4.3 mm	5.0 mm
						

	Bar lab analogs	
ART. NO.	J3020.4300	J3020.6000
Implant-Ø	3.3/3.8/4.3 mm	5.0 mm
		

CAST FABRICATION WITH IMPRESSION CAP FOR BAR ABUTMENT, CLOSED TRAY, FOR BRIDGE AND BAR RESTORATIONS

To fabricate the cast, an impression cap corresponding to the diameter is screwed hand-tight to the bar lab analog and positioned in the impression.





The impression is cast with suitable model material and the combination of bar lab analog/impression cap may not loosen.

After curing, the impression is removed and the impression cap unscrewed from the bar abutment lab analog.

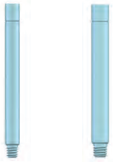
TIP: We recommend that you fabricate the cast with a gingival mask. The surrounding gingiva is represented true to the situation especially for subgingival crown margins and restorations in esthetic areas. An optimal design of the crown contour is easier to achieve.

CAST FABRICATION WITH TITANIUM CAPS FOR BAR ABUTMENTS FOR CROWNS AND BRIDGES

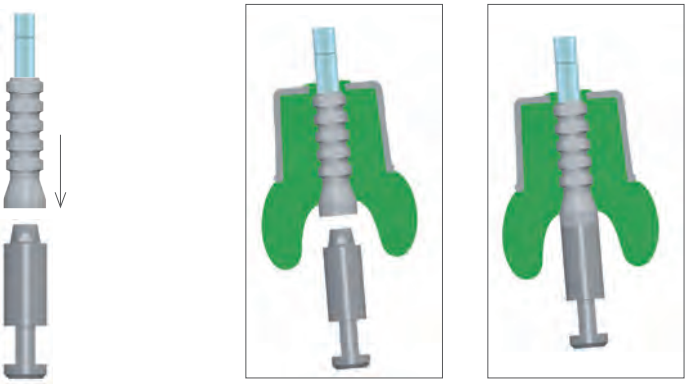
Following impression taking, the titanium cap for bar abutments remains in the impression material. In the dental laboratory, the titanium cap is attached to a corresponding bar lab analog (note proper seating).

Light blue anodized screws, hex, in various lengths are available for fixation of the cap with the bar lab analog. See also information on screw thread sizes M1.6 and M2.0 on page 9.

Screw, hex, for bar abutment, for open tray impression taking and soldering, can be shortened extraorally by 2.5 mm, titanium alloy (Ti6Al4V ELI)

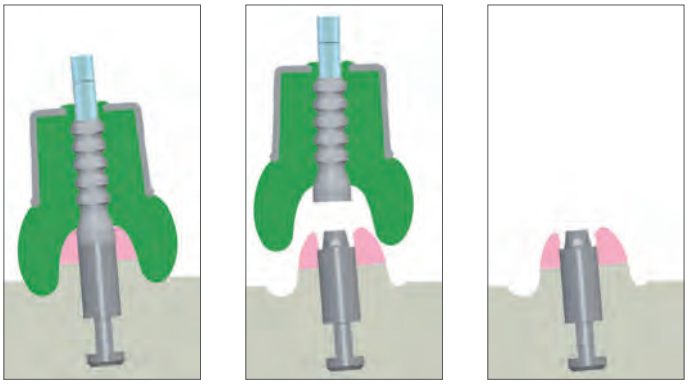
Length	10 mm	15 mm	20 mm
			
Thread	M1.6/M2.0	M1.6/M2.0	M1.6/M2.0
ART. NO.	J4012.1610/2010	J4012.1615/2015	J4012.1620/2020

The titanium cap in the impression is fixated hand-tight on the bar abutment with a corresponding screw using a screwdriver, hex.



The impression is cast with suitable model material. After curing, the titanium cap is loosened from the bar lab analog and the impression extracted.

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



CAST FABRICATION WITH CAMLOG® LAB ANALOG

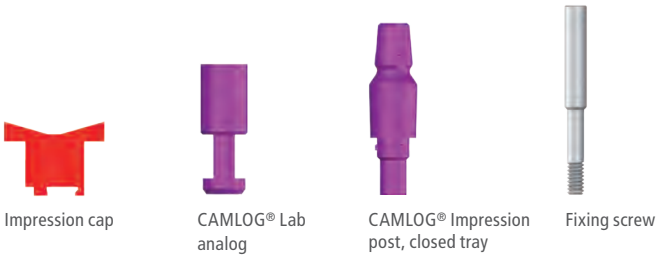
After impression taking with CAMLOG® Impression posts, open or closed tray, the CAMLOG® Lab analog is used for cast fabrication. For subsequent fabrication of the prosthetic restoration, CAMLOG® Bar abutments corresponding to the diameter must be integrated into the CAMLOG® Lab analogs (observe color-coding).

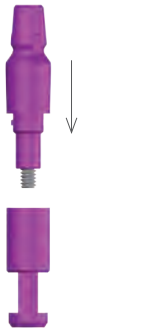
CAMLOG® LAB ANALOG

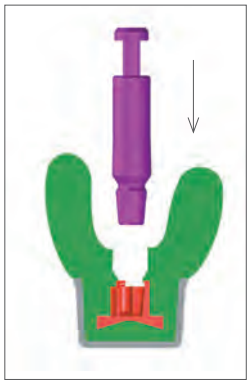
ART. NO.	K3010.3300	K3010.3800	K3010.4300	K3010.5000
				

CAST FABRICATION WITH CAMLOG® IMPRESSION POSTS, CLOSED TRAY

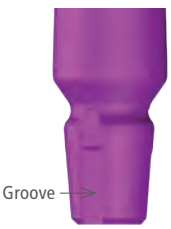
After the impression is taken, the impression cap remains in the impression. In the dental laboratory, the CAMLOG® Impression post, closed tray, is attached with the corresponding lab analog (note proper seating). A screwdriver (hex) is used to hand-tighten the fixing screw.







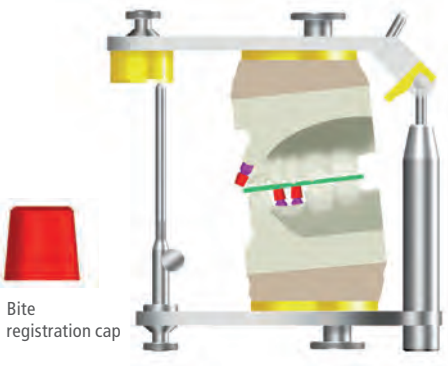
The components are repositioned in the impression cap. Make sure that the grooves correctly engage in the impression cap. Do not use bonding material!



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

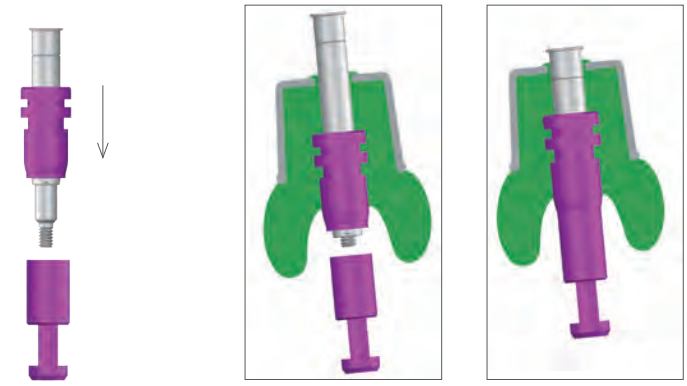
TIP: We recommend that you fabricate the cast with a gingival mask. The surrounding gingiva is represented true to the situation especially for subgingival crown margins and restorations in esthetic areas. An optimal design of the crown contour is easier to achieve.

TIP: After removing the impression, the bite registration caps can be installed on the impression posts in the cast for mounting. The bite registration taken before the impression is then placed on the caps and the cast mounted.

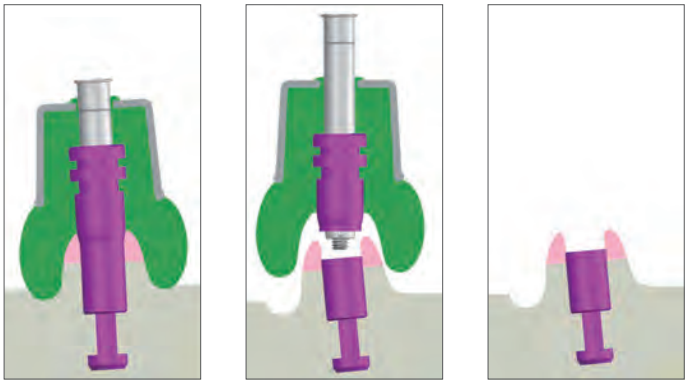


CAST FABRICATION WITH CAMLOG® IMPRESSION POSTS, OPEN TRAY

After the impression is taken, the CAMLOG® Impression posts, open tray, are in the impression. In the dental laboratory, the CAMLOG® Lab analogs corresponding to the diameters are attached to the impression posts, closed tray (note proper seating). A screwdriver (hex) is used to hand-tighten the fixing screw.



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



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

Finished working model

CAST FABRICATION WITH CONELOG® LAB ANALOG

After impression taking with CONELOG® Impression posts, open or closed tray, the CONELOG® Lab analog is used for cast fabrication. For subsequent fabrication of the prosthetic restoration, CONELOG® Bar abutments corresponding to the diameter must be integrated into the CONELOG® Lab analogs (observe color-coding).

CONELOG® LAB ANALOG

ART. NO.	C3010.3300	C3010.3800	C3010.4300	C3010.5000
				

CAST FABRICATION WITH CONELOG® IMPRESSION POSTS, CLOSED TRAY

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

In the dental laboratory, the CONELOG® Impression post, closed tray, is attached with the corresponding lab analog (note proper seating). A screwdriver (hex) is used to hand-tighten the fixing screw.

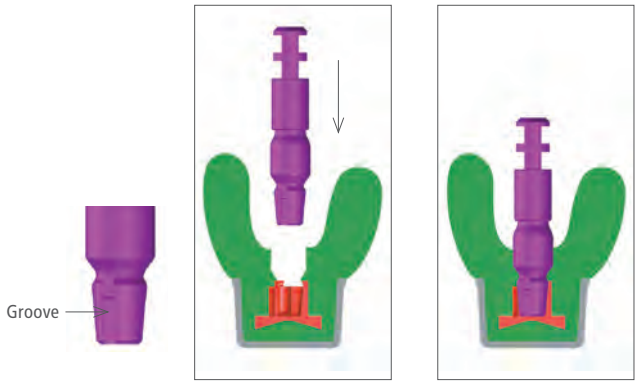
Impression cap

CONELOG® Lab analog

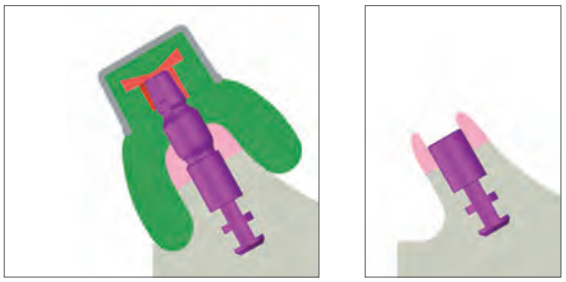
CONELOG® Impression posts, closed tray

Fixing screw

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

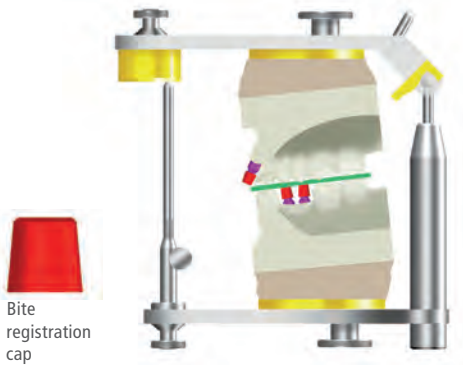


The impression is cast with suitable model material and the impression posts may not loosen. After curing, the impression is removed and the impression posts loosened from the lab analogs.



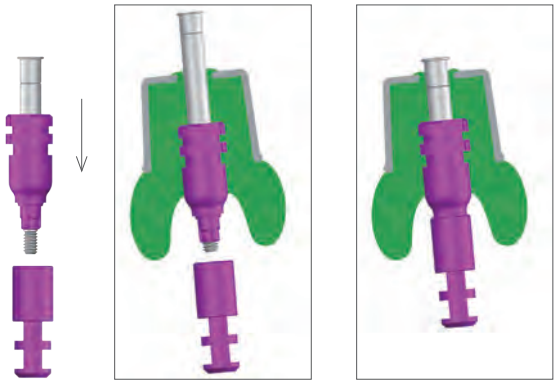
TIP: We recommend that you fabricate the cast with a gingival mask. The surrounding gingiva is represented true to the situation especially for subgingival crown margins and restorations in esthetic areas. An optimal design of the crown contour is easier to achieve.

TIP: After removing the impression, the bite registration caps can be installed on the impression posts in the cast for mounting. The bite registration taken before the impression is then placed on the caps and the cast mounted.



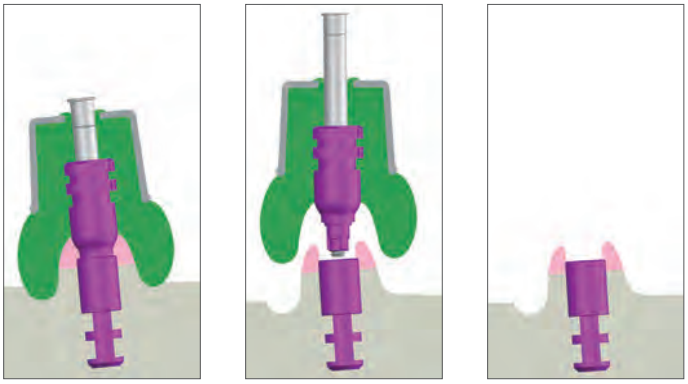
CAST FABRICATION WITH CONELOG® IMPRESSION POSTS, OPEN TRAY

After the impression is taken, the CONELOG® Impression posts, open tray, are in the impression. In the dental laboratory, the CONELOG® Lab analogs corresponding to the diameters are attached to the impression posts, closed tray (note proper seating). A screwdriver (hex) is used to hand-tighten the fixing screw.



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

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



TEMPORARY RESTORATION

A temporary restoration is performed directly on the already finally inserted CAMLOG® and CONELOG® Bar abutments, optionally with healing caps for bar abutments or titanium caps for bar abutments.

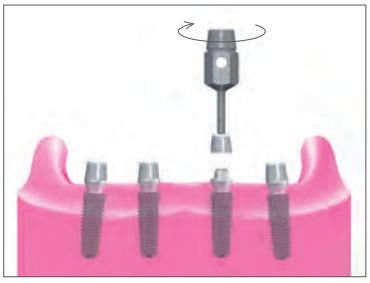
TEMPORARY RESTORATION WITH HEALING CAPS FOR BAR ABUTMENTS

The healing caps for bar abutments are screwed hand-tight directly onto the CAMLOG® or CONELOG® Bar abutments after impression taking with a screwdriver, hex, and serve as protection cap during fabrication of the final prosthetic restoration. Healing caps for bar abutments are partially light blue anodized, made of titanium alloy (Ti6Al4V ELI) and are supplied sterile. Healing caps are available for implant diameters 3.3/3.8/4.3 mm and 5.0 mm.

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

Healing caps for bar abutments

Ø 3.3/3.8/4.3 mm Ø 5.0 mm



TEMPORARY OR FINAL RESTORATION WITH TITANIUM CAPS FOR BAR ABUTMENTS, FOR CROWN AND BRIDGE

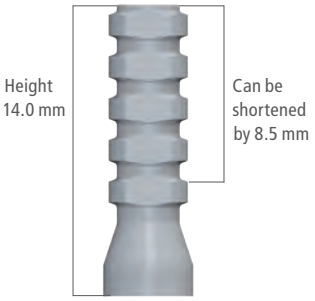
Titanium caps for bar abutments for crown restorations are fitted with an internal hex as antirotational mechanism, and without internal hex for bridge restorations and are made of titanium alloy (Ti6Al4V ELI). The caps are available for implant diameters 3.3/3.8/4.3 mm and 5.0 mm, can be shortened individually and are packed with a light blue anodized prosthetic screw.

ART. NO.		ARTICLE	IMPLANT Ø IN MM	MATERIAL
J2259.4301 J2259.6001		**Titanium cap for bar abutment, for crown,** incl. prosthetic screw light blue anodized	3.3/3.8/4.3 5.0	Titanium alloy
J2259.4302 J2259.6002		**Titanium cap for bar abutment, for bridge,** incl. prosthetic screw light blue anodized	3.3/3.8/4.3 5.0	Titanium alloy

IMPORTANT NOTES

- Shorten extra-orally only.
- During intraoral use, products must be secured in general against aspiration and swallowing.

A temporary restoration with titanium caps can be fabricated optionally on the definitively in the implant inserted CAMLOG® and CONELOG® Bar abutments or on the bar lab analog on the working model.

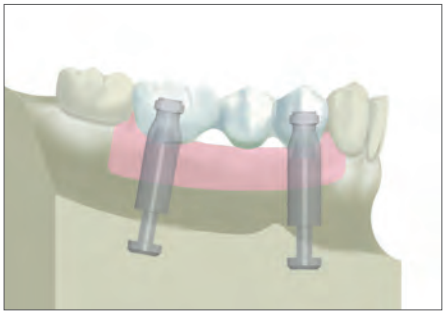


The caps cab be shortened occlusally by 8.5 mm up to and including the fourth chamfer.

EXAMPLE FABRICATION ON THE MODEL:

The caps are placed on the bar lab analogs positioned in the model and fixated hand-tight with brown anodized lab prosthetic screws using a screwdriver, hex.

Titanium caps, crown and bridge for bar abutments, are fitted with retention grooves on the outer surface for veneering. Veneering of titanium caps is done with suitable plastic materials in the usual manner in dentistry.



INSERTION

After completion of the temporary restoration, the construction is fixated finally to the bar abutments with new, unused light blue anodized prosthetic screws. The tightening torque is 15 Ncm. Retighten the screws with the same torque after five minutes.

For hygiene and esthetic reasons, we recommend closing the occlusal screw opening of the construction. To ensure that the prosthetic screw can be removed again, the screw head is covered with some wax or guttapercha and the screw channel closed with e.g. composite.

Clean and disinfect the prosthetic components prior to insertion (see also the "Preparation Instructions for the CAMLOG®/CONELOG® Implant System", ART. NR. J8000.0032). The peri-implant hard and soft tissue situation must allow gapless insertion of the restoration.

FABRICATION OF PROSTHETIC RESTORATIONS

SINGLE CROWNS

PROSTHETIC OPTIONS

A single crown restoration can be fabricated optionally with a titanium cap for bar abutments, for crowns, or by using a crown base for bar abutments, for burn-out. Fabrication follows the usual manner in dentistry according to the design of the "reduced crown shape" using suitable materials.

Titanium cap
for bar abutment

SINGLE CROWNS WITH TITANIUM CAPS FOR BAR ABUTMENT

The instructions for making single crowns are described on page 25 under "Temporary and final restoration with titanium caps for bar abutments, for crown and bridge".

SINGLE CROWNS WITH CROWN BASE FOR BAR ABUTMENTS, BURN-OUT

The crown base consists of burn-out plastic (POM), is fitted with an inner hex design as antirotational mechanism and can be used to fabricate a cast single crown. The crown base is fixated on the bar lab analog using a brown anodized lab prosthetic screw for bar abutments, hex, corresponding to the diameter.

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

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

ART. NO.		ARTICLE	IMPLANT Ø IN MM	MATERIAL
J2256.4306 J2256.6006		**Crown base for bar abutment,** burn-out	3.3/3.8/4.3 5.0	POM
J4013.1601 J4013.2001		**Lab prosthetic screw for bar abutment,** hex, brown anodized	3.3/3.8/4.3 (Thread M1.6) 5.0 (Thread M2.0)	Titanium alloy
J4012.1601 J4012.2001		**Prosthetic screw for bar abutment,** hex, light blue anodized	3.3/3.8/4.3 (Thread M1.6) 5.0 (Thread M2.0)	Titanium alloy

POM: Polyoxymethylene

APPLICATION

The instructions for "Wax-up, investment, cast and devestment as well as inserting" are identical to those described on pages 31–32 under "Base for bar abutment, burn-out".

BRIDGE AND BAR CONSTRUCTIONS

A bridge or bar construction on the bar abutments splints and stabilizes implants. A bar-supported full denture is secured against shearing, lifting, and lateral forces. This solution transfers mastication forces mainly to the bar construction (hybrid technique).

ANATOMICALLY CHALLENGING AREAS

17° and 30° angled CAMLOG® and CONELOG® Bar abutments are available for bridging large implant axis divergences. Where bone supply is reduced and anatomical structures are unfavorably placed for implantation, the implants can be aligned distally and an appropriate prosthetic restoration can be created. This ensures optimum use of the bone supply.

PROSTHETIC OPTIONS

For the fabrication of bridge and bar constructions, the options of bases for bar abutments, burn-out (POM), cast-on (cast-on gold alloy), solderable (solderable gold alloy), laser-weldable (titanium) and a titanium bonding base incl. bar sleeve for Passive-Fit (titanium alloy/POM), are available. Fabrication follows the usual manner in dentistry using suitable materials.

A plastic bridge can be fabricated with titanium caps, bridge for bar abutment, also see page 25 "Temporary and final restoration with titanium caps for bar abutments, for crown and bridge".

CAUTION
The screws, hex, may only be tightened by hand in a dosed manner on the bar lab analogs.

IMPORTANT NOTES
- Bar abutments may not be modified. This would exclude the congruent shape of the impression posts, bar bases, titanium and healing caps to the bar abutments.
- The connection and the contact surfaces between the bar abutments and the implant must not be abrasive blasted or processed mechanically!

FABRICATION OF A BRIDGE OR BAR CONSTRUCTION

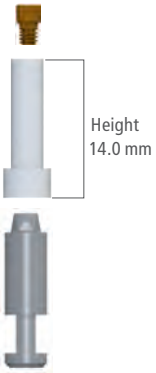
Various bar bases are available for bridge or bar fabrication using casting technology:

BASE FOR BAR ABUTMENT, BURN-OUT

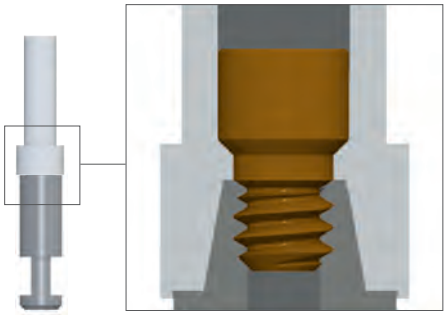
Fabrication of a cast bridge or bar construction with prefabricated bar base made of burn-out plastic (POM) for full casting technique. The bar base is fixated on the bar lab analog using a brown anodized lab prosthetic screw for bar abutments, hex, corresponding to the diameter.

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

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



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



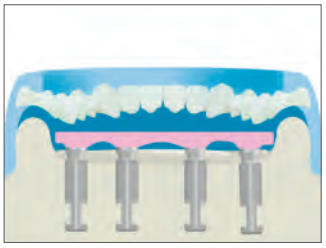
Screw-retained base on the bar lab analog

ART. NO.		ARTICLE	IMPLANT Ø IN MM	MATERIAL
J2257.4300		**Base for bar abutment,** burn-out	3.3/3.8/4.3	POM
J2257.6000			5.0	
J4013.1601		**Lab prosthetic screw for bar abutment,** hex, brown anodized	3.3/3.8/4.3 (Thread M1.6)	Titanium alloy
J4013.2001			5.0 (Thread M2.0)	
J4012.1601		**Prosthetic screw for bar abutment,** hex, light blue anodized	3.3/3.8/4.3 (Thread M1.6)	Titanium alloy
J4012.2001			5.0 (Thread M2.0)	

POM: Polyoxymethylene

WAX-UP

The bridge or bar wax-up is created based on the planning directly on the burn-out bar bases. 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.



Example: Milled bar contruction

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.

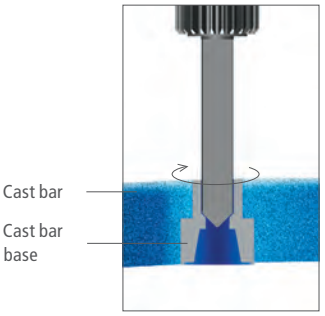
INVESTMENT, CAST AND DEVESTMENT

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 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 devestment in an ultrasonic bath with waterjet or stripping.

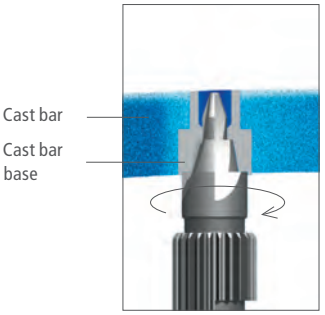
After casting, suitable reworking reamers are available to remove/smooth out casting residues for reworking the screw seat and the shoulder contact area to the bar abutment.

Reworking reamer for base for bar abutment, burn-out, for the screw seat



Reaming out the screw channel of the cast bar base

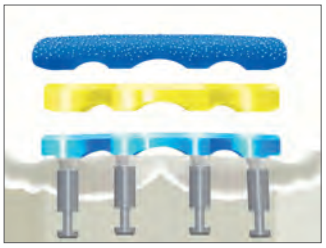
Reworking reamer for base for bar abutment, burn-out



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

After trimming the bridge or the bar, these are checked for a precision fit. Good hygiene capacity must be ensured. In the case of bar constructions, a distance of min. 2 mm to the gingiva must be maintained to prevent insufficient cleaning and resultant changes to the mucous membrane.

The bridge veneer or the secondary framework of the bar are then fabricated, .e.g. by employing an electroplating technique



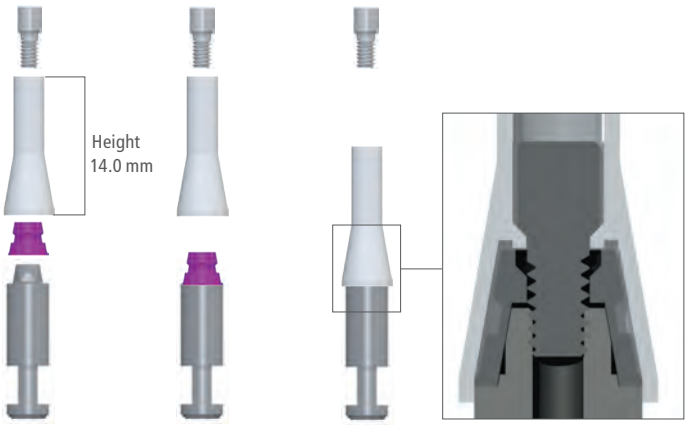
Example: Milled bar construction with secondary framework using the electroplating technique and tertiary structure

INSERTING THE BAR CONSTRUCTION

The finished bridge or bar construction is transferred to the bar abutments and finally screw-retained with new unused prosthetic screws for bar abutment, light blue anodized, using a screwdriver, hex, with 15 Ncm.

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

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



Bar sleeve for titanium bonding base, burn-out, bondable (Passive Fit)

NOTE

For fixation of the titanium bonding base inclusive the mounted bar sleeve to the bar lab analog, the prosthetic screw for bar abutment, hex, ART. NO. J4005.1602 respectively J4005.2002 must be used. This screw engages in the screw seat of the bar sleeve and fixates this on the bar lab analog together with the titanium bonding base. The screw may only be hand-tightened.

After the casting process, the screw seat of the bar sleeve must be removed, and then requires the shorter lab prosthetic screw, hex, ART. NO. J4013.1601 respectively J4013.2001 for subsequent fixation to the bar lab analog. This screw must be able to pass through the bar sleeve and engages in the screw seat of the titanium bonding base. The cast-processed bar sleeve is then attached to the titanium bonding base with an adhesive and therefore does not require a screw seat.

Final fixation of the titanium bonding base is performed with the light blue anodized prosthetic screw for bar abutment, hex, ART. NO. J4012.1601 respectively J4012.2001.

ART. NO.		ARTICLE	IMPLANT Ø IN MM	MATERIAL
J2260.4300 J2260.6000		**Titanium bonding base for bar abutment,** Passive-Fit	3.3/3.8/4.3 5.0	Titanium alloy
J2261.4300 J2261.6000		**Bar sleeve for titanium bonding base,** Passive-Fit, burn-out, incl. prosthetic screw for bar abutment, hex, (only for fabrication of the cast framework in conjunction with bar sleeves for titanium bonding base Passive-Fit)	3.3/3.8/4.3 5.0	POM
J4005.1602 J4005.2002		**Prosthetic screw for bar abutment,** hex, (only for fabrication of the cast framework in conjunction with bar sleeves for titanium bonding base Passive-Fit)	3.3/3.8/4.3 (Thread M1.6) 5.0 (Thread M2.0)	Titanium alloy
J4013.1601 J4013.2001		**Lab prosthetic screw for bar abutment,** hex, brown anodized	3.3/3.8/4.3 (Thread M1.6) 5.0 (Thread M2.0)	Titanium alloy
J4012.1601 J4012.2001		**Prosthetic screw for bar abutment,** hex, light blue anodized	3.3/3.8/4.3 (Thread M1.6) 5.0 (Thread M2.0)	Titanium alloy

POM: Polyoxymethylene

WORKING MODEL WITH BAR LAB ANALOGS

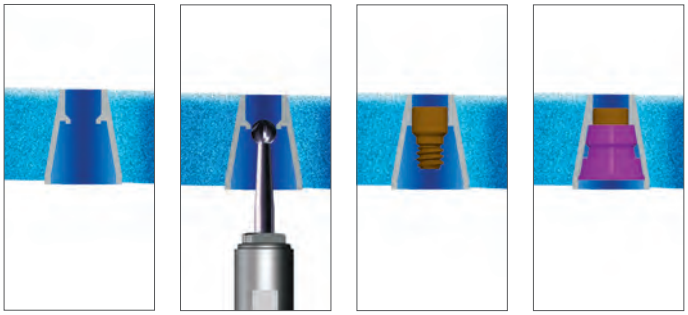
WAX-UP

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

Embedding, casting and devestment are carried out as described on page 31.

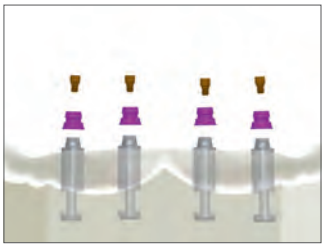
TRIMMING
EXAMPLE BAR FRAMEWORK:

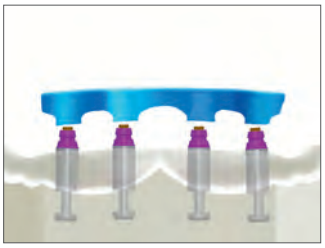
After devestment and cleaning of the cast, the internal fixation ridges (screw seat) of the bar sleeves are removed with a round bur (Ø 2.4 mm). The brown anodized lab prosthetic screw must slide easily through the bar sleeve. The final screw seat is on the titanium bonding base.



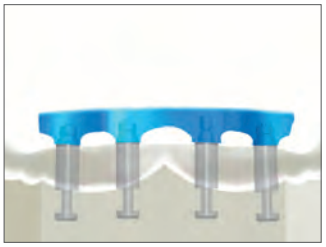
Cast bar construction | Removing the screw seat | Checking the screw mobility | Fit of the bonding base

After trimming, brown anodized lab prosthetic screws are used to attach the titanium bonding bases on the working model. The bar is placed on the titanium bonding bases and the fit checked.





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



BONDING A CAST BAR TO THE TITANIUM BONDING BASES

The titanium bonding bases are placed on the bar abutments in the mouth and screwed hand-tight using blue anodized prosthetic screws for bar abutments, hex.

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.

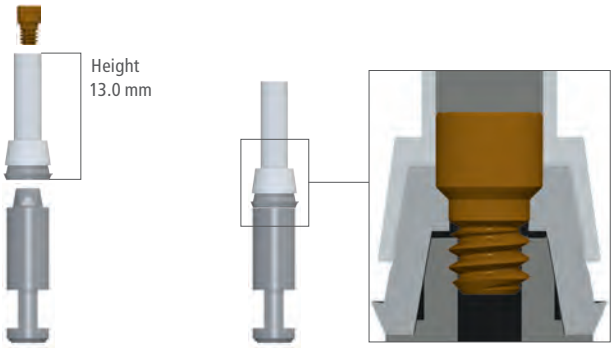
The bonding surfaces of the bar framework and titanium bases are then conditioned based on the bonding manufacturer's specifications. We recommend carefully sandblasting the bonding surfaces before bonding. When bonding, care should be taken that the prosthetic screw does not come into contact with the 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 bar abutments and the excess bonding material carefully removed.

INSERTING THE BAR CONSTRUCTION

The finished bar construction is transferred to the bar abutments and screw-retained finally with new unused blue anodized prosthetic screws, using a screwdriver, hex, with 15 Ncm. The newly created full denture is then inserted and checked for proper fit.

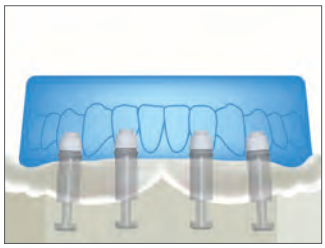
BASE FOR BAR ABUTMENT, CAST-ON

Cast bridge or bar versions with prefabricated bar base made of high-melting cast-on alloy and burn-out plastic sleeve (POM) for cast-on technique. The bar base is fixated on the bar lab analog using a brown anodized lab prosthetic screw for bar abutments, hex, corresponding to the diameter. The plastic sleeve of the bar base can be shortened occlusally to the height of the screw-retained 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	IMPLANT Ø IN MM	MATERIAL
J2263.4300		**Base for bar abutment,** cast-on	3.3/3.8/4.3 (approx. 0.48 g)*	Cast-on gold alloy/ POM
J2263.6000			5.0 (approx. 0.70 g)*	
J4013.1601		**Lab prosthetic screw for bar abutment,** hex, brown anodized	3.3/3.8/4.3 (Thread M1.6)	Titanium alloy
J4013.2001			5.0 (Thread M2.0)	
J4012.1601		**Prosthetic screw for bar abutment,** hex, light blue anodized	3.3/3.8/4.3 (Thread M1.6)	Titanium alloy
J4012.2001			5.0 (Thread M2.0)	

*Noble metal weight approx.
POM: Polyoxymethylene

WAX-UP

The bar wax-up is created based on the planning directly on the burn-out plastic sleeve and bar base. 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 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.

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

After wax-up of the 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 casting 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.

NOTES ON THE CASTING 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 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 due 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 of the bar base on the 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 framework must be seated tension-free on the bar abutments.

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

INSERTING THE BRIDGE OR BAR CONSTRUCTION

The finished bridge or bar construction is transferred to the bar abutments and screw-retained finally with new unused light blue anodized prosthetic screws, using a screwdriver, hex, with 15 Ncm.

BASE FOR BAR ABUTMENT, LASER-WELDABLE

Laser-welded bar construction with prefabricated bar bases made of pure titanium (titanium grade 4). The bar base is fixated on the bar lab analog using a brown anodized lab prosthetic screw for bar abutments, hex, corresponding to the diameter. 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	IMPLANT Ø IN MM	MATERIAL
J2262.4300 J2262.6000		**Base for bar abutment,** laser-weldable	3.3/3.8/4.3 5.0	Titanium Grade 4
J4013.1601 J4013.2001		**Lab prosthetic screw for bar abutment,** hex, brown anodized	3.3/3.8/4.3 (Thread M1.6) 5.0 (Thread M2.0)	Titanium alloy
J4012.1601 J4012.2001		**Prosthetic screw for bar abutment,** hex, light blue anodized	3.3/3.8/4.3 (Thread M1.6) 5.0 (Thread M2.0)	Titanium alloy

LASER WELDING

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 bases for bar under sufficient argon gas purging and the bar is polished to a high gloss. The bar must be seated tension-free on the bar lab analogs.

IMPORTANT NOTE ABOUT LASER WELDING
Blue discoloration on the welds must be avoided. This 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 full 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 using a suitable relief wire. Only then is vertical translation of the prosthesis on the bar ensured.

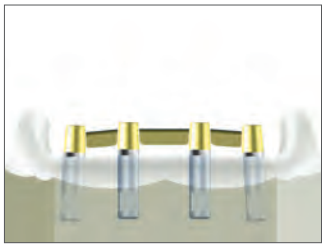
INSERTING THE BAR CONSTRUCTION

The finished bar construction is transferred to the bar abutments and screw-retained finally with new unused light blue anodized prosthetic screws, using a screwdriver, hex, with 15 Ncm. The newly created full denture is then inserted and checked for proper fit.

BASE FOR BAR ABUTMENT, SOLDERABLE

Soldered bar construction with prefabricated bar bases made of solderable gold alloy. The bar base is fixated on the bar lab analog using a brown anodized lab prosthetic screw for bar abutment, hex. The height of the bar base is 5.3 mm.

Setting up the solderable bar bases

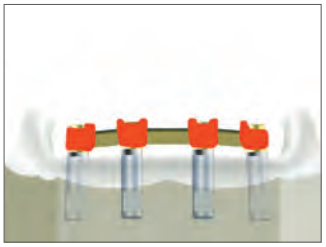


Bar bases with fitted prefabricated bar components made of solderable gold alloy

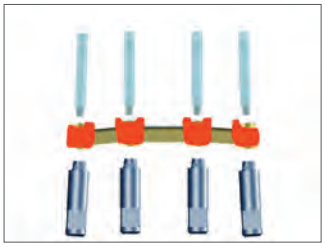
ART. NO.		ARTICLE	IMPLANT Ø IN MM	MATERIAL
J2258.4300 J2258.6000		**Base for bar abutment,** solderable	3.3/3.8/4.3 5.0	Solderable gold alloy
J4013.1601 J4013.2001		**Lab prosthetic screw for bar abutment,** hex, brown anodized	3.3/3.8/4.3 (Thread M1.6) 5.0 (Thread M2.0)	Titanium alloy
J4012.1601 J4012.2001		**Prosthetic screw for bar abutment,** hex, light blue anodized	3.3/3.8/4.3 (Thread M1.6) 5.0 (Thread M2.0)	Titanium alloy

SOLDERING

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 with residue-free burn-out plastic, the brown anodized lab prosthetic screws are loosened after curing and the bar lifted off the working model. Bar lab analogs (serves also as soldering aids, stainless steel) are inserted in the bar bases and hand-tightened with light blue anodized and shortenable screws, hex, for bar abutments. The screws are available in different lengths. See also information on screw thread sizes M1.6 and M2.0 on page 9.

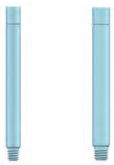


Fixated bar components



Bar lab analogs (soldering aids) with bar and screws for bar abutment

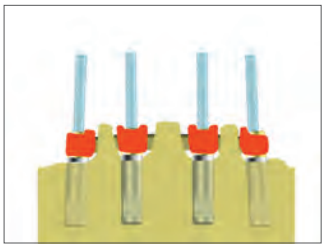
Screw, hex, for bar abutment, for open tray impression taking and soldering, can be shortened extraorally by 2.5 mm, titanium alloy (Ti6Al4V ELI)

Length	10 mm	15 mm	20 mm
			
Thread	M1.6/M2.0	M1.6/M2.0	M1.6/M2.0
ART. NO.	J4012.1610/2010	J4012.1615/2015	J4012.1620/2020

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

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

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.



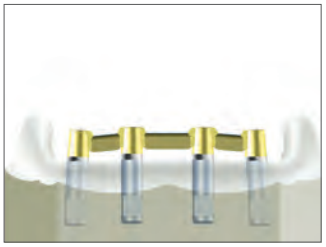
Fabricating the soldering model

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

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

The finished bar must be seated tension-free on the bar lab analogs.

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 full dentures. An existing full denture can also be converted into a bar-retained prosthesis with suitable bar matrices.



Finished bar

INSERTING THE BAR CONSTRUCTION

The finished bar construction is transferred to the bar abutments and screw-retained finally with new unused blue anodized prosthetic screws, using a screwdriver, hex, with 15 Ncm. The newly created full denture is then inserted and checked for proper fit.

IMPORTANT NOTE

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

NOTES ON FINAL INTEGRATION OF THE SUPERSTRUCTURE INTO THE IMPLANT

- Prior to integration, the prosthetic components must be cleaned and disinfected. We recommend an additional sterilization (see also "Preparation Instructions for the CAMLOG®/CONELOG® Implant System", ART. NO. J8000.0032).
- Prior to integrating the superstructure to the bar abutments, the healing caps and the temporary restoration respectively, are to be removed. The bar abutments are to be cleaned.
- The superstructure (crown/bridge/bar) is mounted and finally fixated using blue anodized prosthetic screws for bar abutments, hex, taking into account the stipulated torques (see table on page 8 "Screws for CAMLOG® and CONELOG® Bar abutments").

To obtain maximum pre-tensioning, the abutment and prosthetic screws for bar abutments, hex, as well as the straight bar abutments, need to be retightened with the same torque after approx. 5 minutes!

After integration and tightening of the prosthetic screws, hex, the occlusal screw channels can be sealed with suitable materials (i.e. composite) for hygienic reasons. Beforehand, the screw head is covered with some guttapercha or silicone to ensure removability later.

IMPORTANT NOTE

The final fixation of the angled bar abutments and the superstructure must be performed with new unused abutment and prosthetic screws for bar abutments, hex!

ARTICLE LIST

CAMLOG® BAR ABUTMENTS, STRAIGHT, STERILE

ART. NO.		IMPLANT Ø IN MM	GH IN MM	PP-Ø IN MM	MATERIAL
J2254.3305		3.3	0.5	4.3	Titanium
J2254.3320			2.0		alloy
J2254.3805		3.8	0.5		
J2254.3820			2.0		
J2254.3840			4.0		
J2254.4305		4.3	0.5		
J2254.4320			2.0		
J2254.4340			4.0		
J2254.5005		5.0	0.5	6.0	
J2254.5020			2.0		
J2254.5040			4.0		

CAMLOG® BAR ABUTMENTS, 17° ANGLED, INCL. CAMLOG® ABUTMENT SCREW REDUCED HEAD, STERILE

ART. NO.		TYPE	IMPLANT Ø IN MM	GH IN MM	PP-Ø IN MM	MATERIAL
K2256.3325		A	3.3	2.5	4.3	Titanium
K2256.3340		A		4.0		alloy
K2257.3325		B		2.5		
K2257.3340		B		4.0		
K2256.3825		A	3.8	2.5		
K2256.3840		A		4.0		
K2257.3825		B		2.5		
K2257.3840		B		4.0		
K2256.4325		A	4.3	2.5		
K2256.4340		A		4.0		
K2257.4325		B		2.5		
K2257.4340		B		4.0		
K2256.5025		A	5.0	2.5	6.0	
K2256.5040		A		4.0		
K2257.5025		B		2.5		
K2257.5040		B		4.0		

GH: Gingival height, PP-Ø: Prosthetic platform diameter

CAMLOG® BAR ABUTMENTS, 30° ANGLED, INCL. CAMLOG® ABUTMENT SCREW REDUCED HEAD, STERILE

ART. NO.		TYPE	IMPLANT Ø IN MM	GH IN MM	PP-Ø IN MM	MATERIAL
K2258.3325		A	3.3	2.5	4.3	Titanium
K2258.3340		A		4.0		alloy
K2259.3325		B		2.5		
K2259.3340		B		4.0		
K2258.3825		A	3.8	2.5		
K2258.3840		A		4.0		
K2259.3825		B		2.5		
K2259.3840		B		4.0		
K2258.4325		A	4.3	2.5		
K2258.4340		A		4.0		
K2259.4325		B		2.5		
K2259.4340		B		4.0		
K2258.5035		A	5.0	3.5	6.0	
K2258.5050		A		5.0		
K2259.5035		B		3.5		
K2259.5050		B		5.0		

GH: Gingival height, PP-Ø: Prosthetic platform diameter

CONELOG® BAR ABUTMENTS, STRAIGHT, STERILE

ART. NO.		IMPLANT Ø IN MM	GH IN MM	PP-Ø IN MM	MATERIAL
C2254.3310		3.3	1.0	4.3	Titanium
C2254.3325			2.5		alloy
C2254.3810		3.8	1.0		
C2254.3825			2.5		
C2254.3840			4.0		
C2254.4310		4.3	1.0		
C2254.4325			2.5		
C2254.4340			4.0		
C2254.5010		5.0	1.0	6.0	
C2254.5025			2.5		
C2254.5040			4.0		

CONELOG® BAR ABUTMENTS, 17° ANGLED, INCL. CONELOG® ABUTMENT SCREW REDUCED HEAD, STERILE

ART. NO.		TYPE	IMPLANT Ø IN MM	GH IN MM	PP-Ø IN MM	MATERIAL
C2256.3325		A	3.3	2.5	4.3	Titanium
C2256.3340		A		4.0		alloy
C2257.3325		B		2.5		
C2257.3340		B		4.0		
C2256.3825		A	3.8	2.5		
C2256.3840		A		4.0		
C2257.3825		B		2.5		
C2257.3840		B		4.0		
C2256.4325		A	4.3	2.5		
C2256.4340		A		4.0		
C2257.4325		B		2.5		
C2257.4340		B		4.0		
C2256.5025		A	5.0	2.5	6.0	
C2256.5040		A		4.0		
C2257.5025		B		2.5		
C2257.5040		B		4.0		

GH: Gingival height, PP-Ø: Prosthetic platform diameter

CONELOG® BAR ABUTMENTS, 30° ANGLED, INCL. CONELOG® ABUTMENT SCREW REDUCED HEAD, STERILE

ART. NO.		TYPE	IMPLANT Ø IN MM	GH IN MM	PP-Ø IN MM	MATERIAL
C2258.3325		A	3.3	2.5	4.3	Titanium
C2258.3340		A		4.0		alloy
C2259.3325		B		2.5		
C2259.3340		B		4.0		
C2258.3825		A	3.8	2.5		
C2258.3840		A		4.0		
C2259.3825		B		2.5		
C2259.3840		B		4.0		
C2258.4325		A	4.3	2.5		
C2258.4340		A		4.0		
C2259.4325		B		2.5		
C2259.4340		B		4.0		
C2258.5035		A	5.0	3.5	6.0	
C2258.5050		A		5.0		
C2259.5035		B		3.5		
C2259.5050		B		5.0		

GH: Gingival height, PP-Ø: Prosthetic platform diameter

COMPONENTS FOR CAMLOG® AND CONELOG® BAR ABUTMENTS

ART. NO.		ARTICLE	IMPLANT Ø IN MM	DIMENSIONS IN MM	MATERIAL
K2121.3300 K2121.3800 K2121.4300 K2121.5000		**CAMLOG® Impression posts, open tray,** incl. shortenable fixing screw	3.3 3.8 4.3 5.0	21.0/24.0	Titanium alloy
K2110.3300 K2110.3800 K2110.4300 K2110.5000		**CAMLOG® Impression posts, closed tray,** incl. impression cap, bite registration cap and fixing screw	3.3 3.8 4.3 5.0		Titanium alloy/POM
C2121.3300 C2121.3800 C2121.4300 C2121.5000		**CONELOG® Impression posts, open tray,** incl. shortenable fixing screw	3.3 3.8 4.3 5.0	19.3/22.3	Titanium alloy
C2110.3300 C2110.3800 C2110.4300 C2110.5000		**CONELOG® Impression posts, closed tray,** incl. impression cap, bite registration cap and fixing screw	3.3 3.8 4.3 5.0		Titanium alloy/POM
K3010.3300 K3010.3800 K3010.4300 K3010.5000		**CAMLOG® Lab analog**	3.3 3.8 4.3 5.0		Titanium alloy
C3010.3300 C3010.3800 C3010.4300 C3010.5000		**CONELOG® Lab analog**	3.3 3.8 4.3 5.0		Titanium alloy
J2029.4300 J2029.6000		**Healing cap for bar abutment,** light blue partially anodized, sterile	3.3/3.8/4.3 5.0		Titanium alloy
J2129.4300 J2129.6000		**Impression cap for bar abutment, closed tray (bridge/bar),** light blue partially anodized, sterile	3.3/3.8/4.3 5.0		Titanium alloy
J5300.0027 J5300.0028		**Driver for impression caps and healing caps for bar abutments**	3.3/3.8/4.3 5.0	19.1 19.1	Stainless steel
J3020.4300 J3020.6000		**Bar lab analog for bar abutments**	3.3/3.8/4.3 5.0		Stainless steel

COMPONENTS FOR CAMLOG® AND CONELOG® BAR ABUTMENTS

ART. NO.		ARTICLE	IMPLANT Ø IN MM	DIMENSIONS IN MM	MATERIAL
J2610.4300 J2610.6000		**Scanning cap for bar abutments,** incl. prosthetic screw light blue anodized, sterile	3.3/3.8/4.3 5.0		PEEK
J2269.0003		**Aligning tool 17°** for angled bar abutments, for insertion posts			Stainless steel
J2269.0004		**Aligning tool 30°** for angled bar abutments, for insertion posts			Stainless steel
J2259.4301 J2259.6001		**Titanium cap for bar abutment, for crown,** incl. prosthetic screw light blue anodized	3.3/3.8/4.3 5.0		Titanium alloy
J2259.4302 J2259.6002		**Titanium cap for bar abutment, for bridge,** incl. prosthetic screw light blue anodized	3.3/3.8/4.3 5.0		Titanium alloy
J2256.4306 J2256.6006		**Crown base for bar abutment,** burn-out	3.3/3.8/4.3 5.0		POM
J2257.4300 J2257.6000		**Base for bar abutment,** burn-out	3.3/3.8/4.3 5.0		POM
J2263.4300 J2263.6000		**Base for bar abutment,** cast-on	3.3/3.8/4.3 5.0	0,48g* 0,70g*	Cast-on gold alloy/POM
J2258.4300 J2258.6000		**Base for bar abutment,** solderable	3.3/3.8/4.3 5.0		Solderable gold alloy
J2262.4300 J2262.6000		**Base for bar abutment, titanium,** laser-weldable	3.3/3.8/4.3 5.0		Titanium Grade 4
J2260.4300 J2260.6000		**Titanium bonding base for bar abutment,** Passive-Fit	3.3/3.8/4.3 5.0		Titanium alloy
J2261.4300 J2261.6000		**Bar sleeve for titanium bonding base,** burn-out, Passive-Fit, incl. prosthetic screw for bar abutment, hex, (only for fabrication of the cast framework in conjunction with bar sleeves for titanium bonding base Passive-Fit)	3.3/3.8/4.3 5.0		POM

*Noble metal weight approx., PEEK: Poly ether ether ketone, POM: Polyoxymethylen

COMPONENTS FOR CAMLOG® AND CONELOG® BAR ABUTMENTS

ART. NO.		ARTICLE	IMPLANT Ø IN MM	THREAD	MATERIAL
J4004.1601		**CAMLOG® Abutment screw with reduced head,** hex, light blue anodized	3.3/3.8/4.3	M1.6	Titanium alloy
J4004.2001			5.0	M2.0	
J4004.1600		**CAMLOG® Lab screw with reduced head,** hex, light blue partially anodized	3.3/3.8/4.3	M1.6	Titanium alloy
J4004.2000			5.0	M2.0	
C4004.1601		**CONELOG® Abutment screw with reduced head,** hex, light blue anodized	3.3/3.8/4.3	M1.6	Titanium alloy
C4004.2001			5.0	M2.0	
C4004.1600		**CONELOG® Lab screw with reduced head,** hex, light blue partially anodized	3.3/3.8/4.3	M1.6	Titanium alloy
C4004.2000			5.0	M2.0	
J4005.1602		**Prosthetic screw for bar abutment,** hex, (only for fabrication of the cast framework in conjunction with bar sleeves for titanium bonding base Passive-Fit)	3.3/3.8/4.3	M1.6	Titanium alloy
J4005.2002			5.0	M2.0	
J4012.1601		**Prosthetic screw for bar abutment**, hex, light blue anodized (for final fixation of the bar bases)	3.3/3.8/4.3	M1.6	Titanium alloy
J4012.2001			5.0	M2.0	
J4013.1601		**Lab prosthetic screw for bar abutment,** hex, brown anodized	3.3/3.8/4.3	M1.6	Titanium alloy
J4013.2001			5.0	M2.0	
J4012.1610		**Screw, hex, length 10 mm,** can be shortened by 2.5 mm, light blue anodized, sterile		M1.6	Titanium alloy
J4012.2010				M2.0	
J4012.1615		**Screw, hex, length 15 mm,** can be shortened by 2.5 mm, light blue anodized, sterile		M1.6	Titanium alloy
J4012.2015				M2.0	
J4012.1620		**Screw, hex, length 20 mm,** can be shortened by 2.5 mm, light blue anodized, sterile		M1.6	Titanium alloy
J4012.2020				M2.0	
J4009.1627		**Plastic screw for bar abutment,** hex, length 27 mm, sterile		M1.6	PEEK
J4009.2027				M2.0	

PEEK: Poly ether ether ketone

INSTRUMENTS

ART. NO.		ARTICLE	IMPLANT Ø IN MM	DIMENSIONS IN MM	MATERIAL
J5300.0020		**Driver for straight bar abutments**	3.3/3.8/4.3	18.6	Stainless steel
J5300.0025			5.0		
J5317.0510		**Screwdriver, hex, extra short,** manual/wrench		14.5	Stainless steel
J5317.0501		**Screwdriver, hex, short,** manual/wrench		22.5	
J5317.0502		**Screwdriver, hex, long,** manual/wrench		30.3	
J5317.0504		**Screwdriver, hex, short,** ISO shaft		18.0	Stainless steel
J5317.0503		**Screwdriver, hex, long,** ISO shaft		26.0	
J5317.0511		**Manual screwdriver, hex,** without torque wrench head connection		23.0	Stainless steel

INSTRUMENTS

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
J3709.0010		**CAMLOG® Universal holder,** incl. 2 CAMLOG® Lab screws (thread M 1.6 and M 2.0) and 1 CAMLOG® Abutment collet each for implant-Ø 3.3/3.8/4.3/5.0/6.0 mm	
C3709.0010		**CONELOG® Universal holder,** incl. 2 CONELOG® Lab screws (thread M 1.6 and M 2.0) and 1 CONELOG® Abutment collet each for implant-Ø 3.3/3.8/4.3/5.0 mm	
J3709.0015		**Universal holder**	

ART. NO.	ARTICLE	IMPLANT Ø IN MM	MATERIAL
J3709.3300	**CAMLOG® Abutment collets for universal holder**	3.3	Titanium alloy
J3709.3800		3.8	
J3709.4300		4.3	
J3709.5000		5.0	
C3709.3300	**CONELOG® Abutment collets for universal holder**	3.3	Titanium alloy
C3709.3800		3.8	
C3709.4300		4.3	
C3709.5000		5.0	

ART. NO.		ARTICLE	MATERIAL
		Reworking reamer for base for bar abutment	
J3711.0010		Plane surface/cone seat, burn-out for implant diameters 3.3/3.8/4.3 mm	Stainless steel
J3711.0015		Plane surface/cone seat, burn-out for implant diameter 5.0 mm	
J3711.0020		Screw seat, burn-out for implant diameters 3.3/3.8/4.3 mm	
J3711.0025		Screw seat, burn-out for implant diameter 5.0 mm	

MATERIAL

TITANIUM GRADE 4	**PROPERTIES (ASTM F67):**		
	Chemical structure (in %):	O	≤ 0.4
		Fe	≤ 0.5
		C	≤ 0.08
		N	≤ 0.05
		H	≤ 0.015
		Ti	Rest
	Mechanical properties:	Tensile strength	≥ 550 MPa
		Elongation at break	≥ 12 %

TITANIUM ALLOY TI6AI4V ELI	**PROPERTIES (ASTM F136):**		
	Chemical structure (in %):	AI	5.5–6.5
		V	3.5–4.5
		Fe	≤ 0.25
		C	≤ 0.08
		N	≤ 0.05
		O	≤ 0.13
		H	≤ 0.012
		Ti	Rest
	Mechanical properties:	Tensile strength	≥ 860 MPa
		Elongation at break	≥ 10 %

CAST-ON GOLD ALLOY BASE FOR BAR ABUTMENT	PROPERTIES:		
	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
		Modulus of elasticity	136.000 GPa
			hardened 700 °C/30 min.
		Hardness HV5	210
		0.2 % Elongation limit	450–570 MPa
		Elongation at break	min. 10 %
		Tensile strength MPa	530–650

SOLDERABLE GOLD ALLOY BASE FOR BAR ABUTMENT	PROPERTIES:		
	Chemical structure (in %):	Au	70.0
		Pt	8.5
		Ag	13.4
		Pd	–
		Cu	7.5
		Zn	0.5
		Ir	0.1
		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 on the products is available in the following documentations:

- CAMLOG® and CONELOG® Product catalog
- Work instructions
- Instruction manuals
- Preparation instructions

The documents are available from the local CAMLOG representative.
See also:
http://ifu.camlog.com
www.camlog.com

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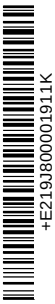

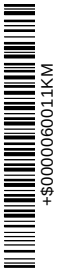

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