



implant**swiss**

Implantswiss Dental Implant Prosthetic Manual

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INTRODUCTION

Implantswiss Dental Implant System is indicated to use for surgical placement in the upper and lower jaw arches, to provide a root form means for single and multiple units' prosthetic appliance attachment to restore a patient's chewing function.

Implantswiss Dental Implant can be placed with a conventional two stage surgical process with an option for transmucosal healing or they can be placed in a single stage surgical process for immediate loading.

Immediate loading is restricted to the anterior mandible based on four splinted-interforminal placed implants.

Implants are of two types: Bone level and tissue level dental implants. The device is Screw retained or threaded; hybrid or straight type design.

Implantswiss Dental Abutment System is used with a dental implant to provide support to prosthetic restorations such as crown, bridge and overdentures in partially or fully edentulous patients.

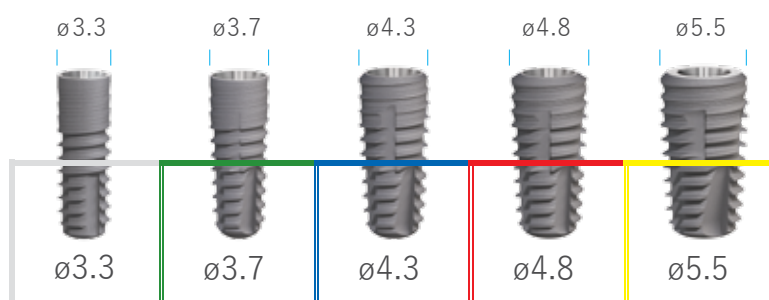
Abutment provides the link between the Endosseous fixture and the prosthesis that forms the superstructure and allows chewing.

Octa and Multi-Unit Abutment models that contain an abutment post height less than 4 mm are indicated only for multi-unit loading, such as a bridge or overdenture.

The implant abutment connection is varied in depending up on the type of implant.

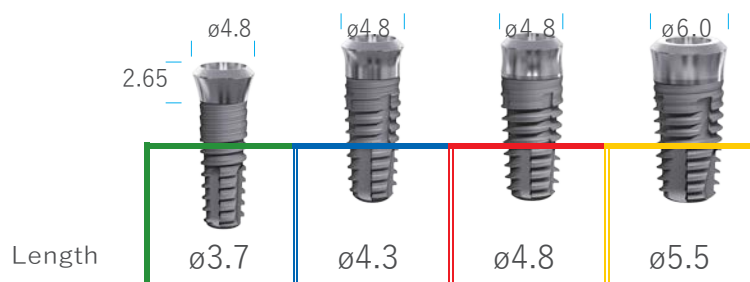
Implant surgery and restoration are complex dental procedures. Appropriate and, adequate training in proper techniques are required prior to implant use. Only an experienced surgeon should do the procedure.

BONE LEVEL FIXTURE SERIES



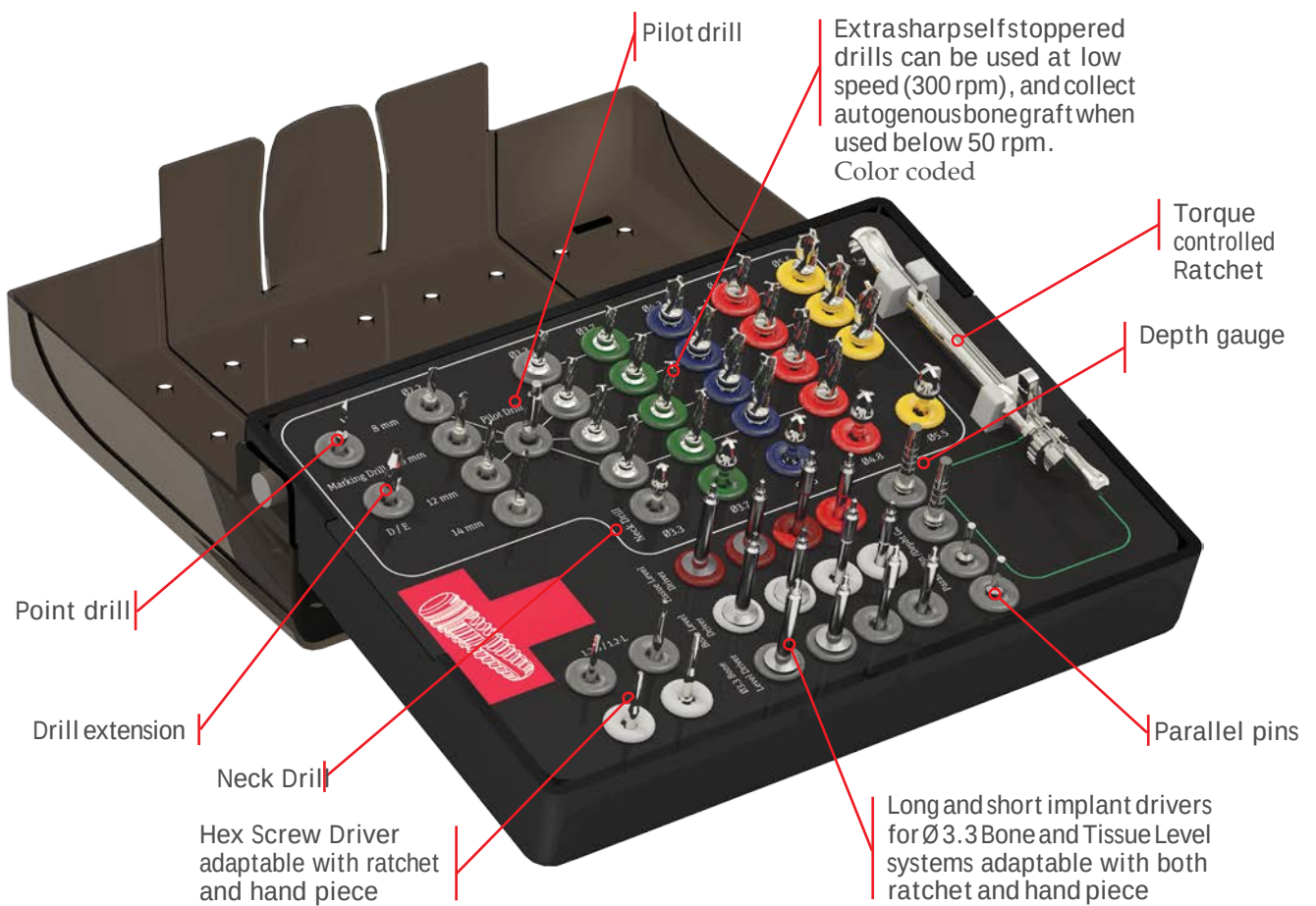
8.0 mm	S-BMFSR3308	S-BFHR3708	S-BFHR4308	S-BFHR4808	S-BWFHR5508
10.0 mm	S-BMFSR3310	S-BFHR3710	S-BFHR4310	S-BFHR4810	S-BWFHR5510
12.0 mm	S-BMFSR3312	S-BFHR3712	S-BFHR4312	S-BFHR4812	S-BWFHR5512
14.0 mm	S-BMFSR3314	S-BFHR3714	S-BFHR4314	S-BFHR4814	—

TISSUE LEVEL FIXTURE SERIES



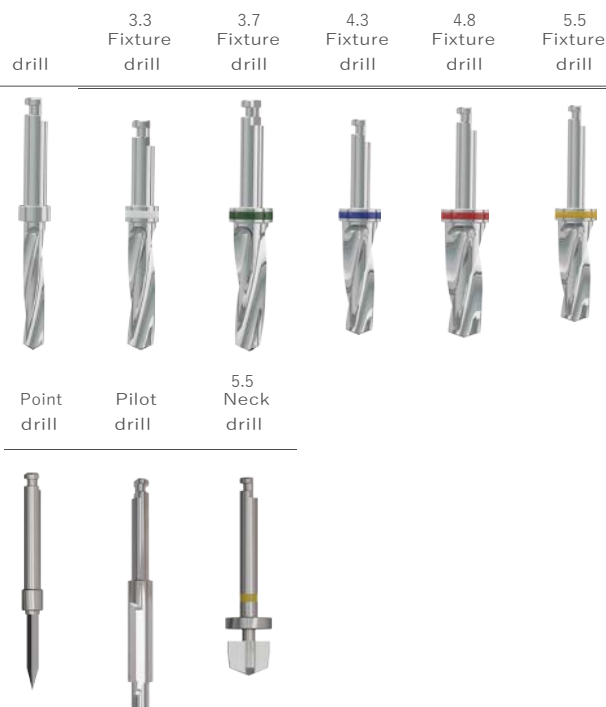
8.0 mm	S-TFHR3708	S-TFHR4308	S-TFHR4808	S-TWFHR5508
10.0 mm	S-TFHR3710	S-TFHR4310	S-TFHR4810	S-TWFHR5510
12.0 mm	S-TFHR3712	S-TFHR4312	S-TFHR4812	S-TWFHR5512
14.0 mm	S-TFHR3714	S-TFHR4314	S-TFHR4814	—

SURGICAL PROTOCOL



DRILL SEQUENCE

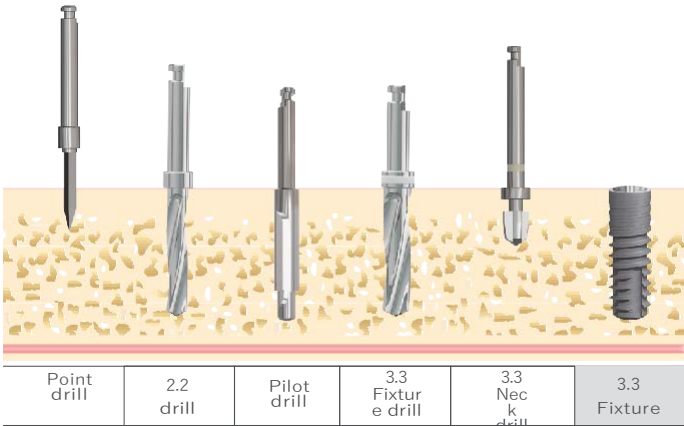
SURGICAL DRILLS



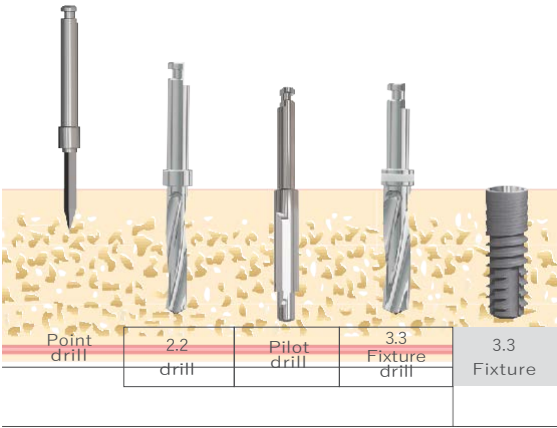
Ø3.3
Fixture



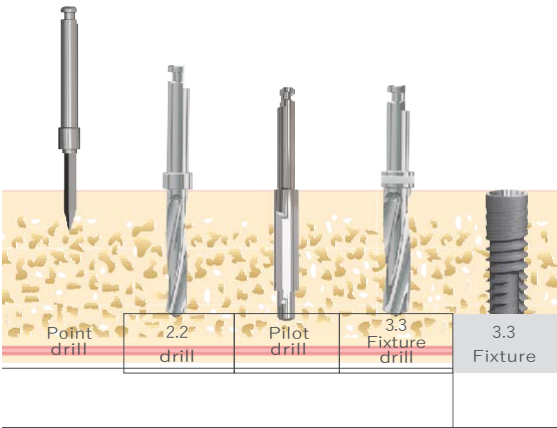
D1 Bone



D2-3 Bone



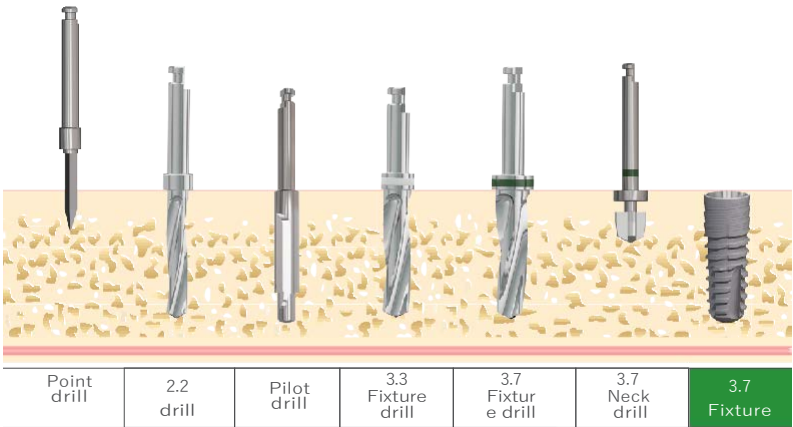
D4 Bone



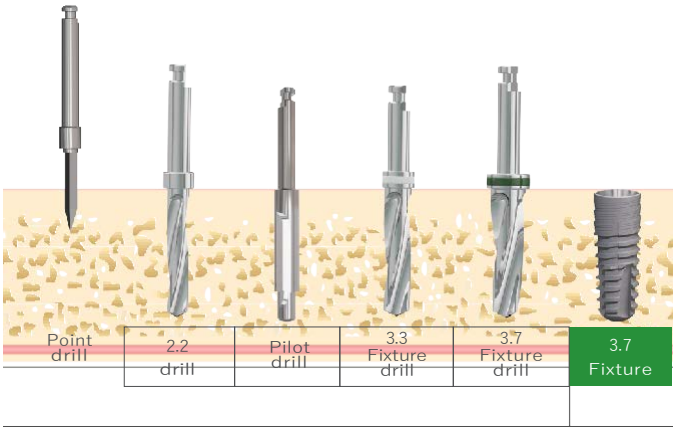
ø3.7
Fixture



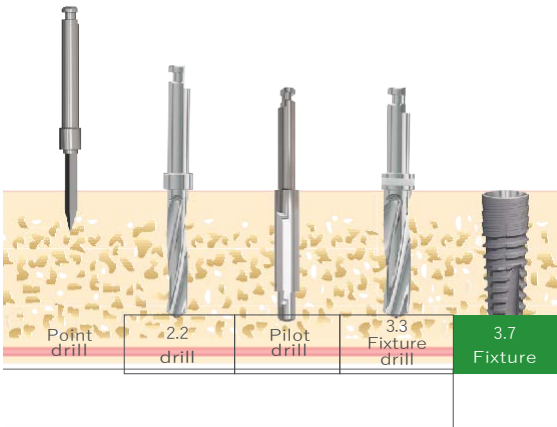
D1 Bone



D2-3 Bone



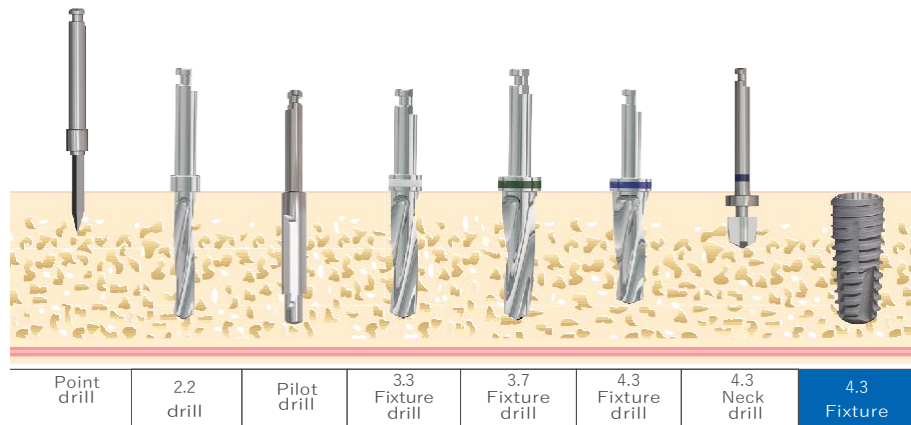
D4 Bone



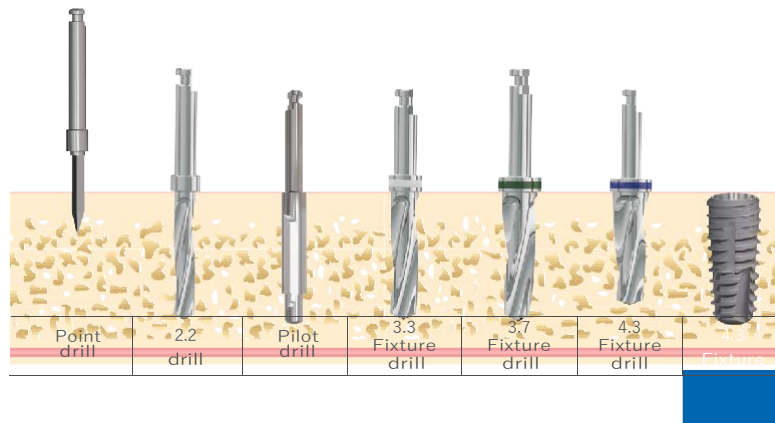
ø4.3 Fixture



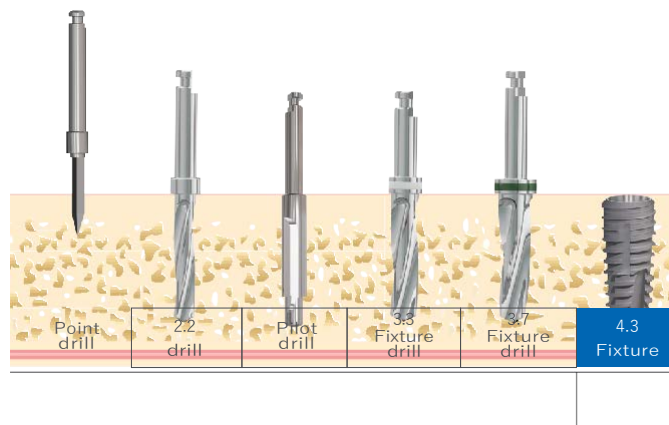
D1 Bone



D2-3 Bone



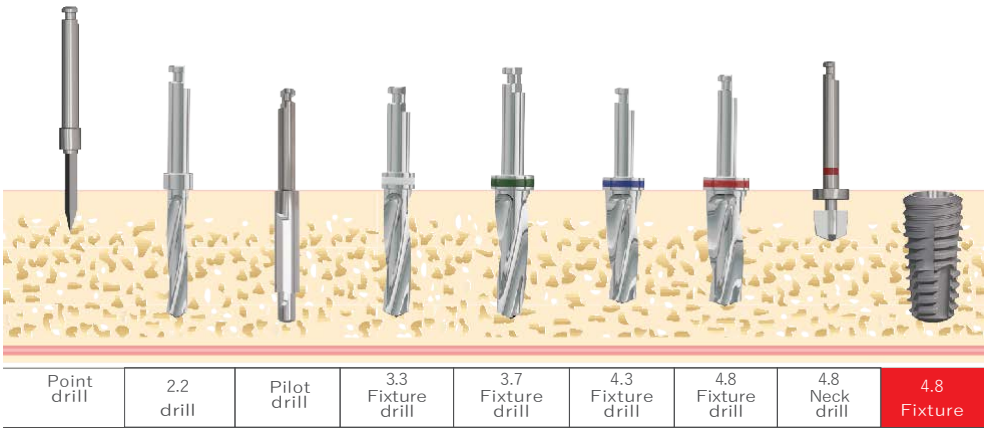
D4 Bone



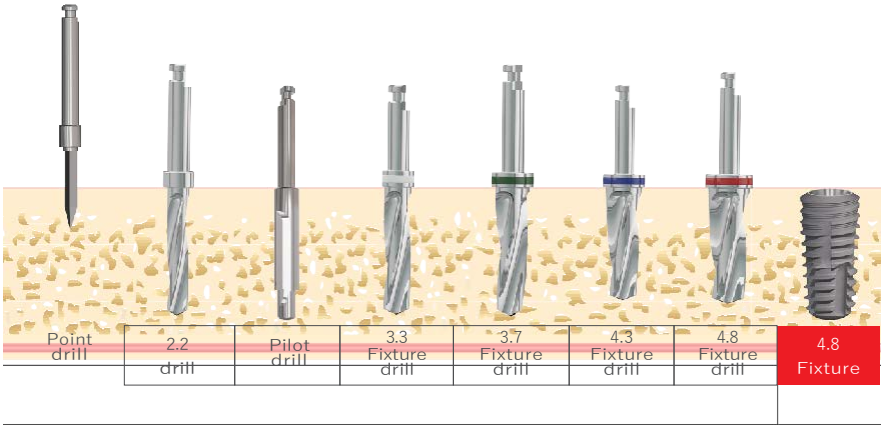
**ø4.8
Fixture**



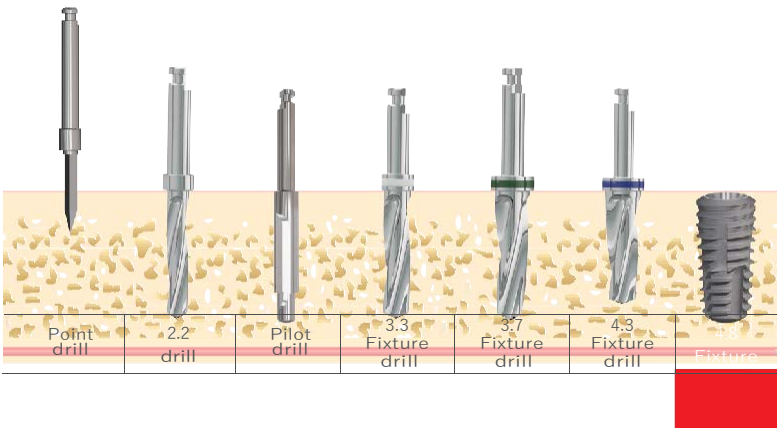
D1 Bone



D2-3 Bone



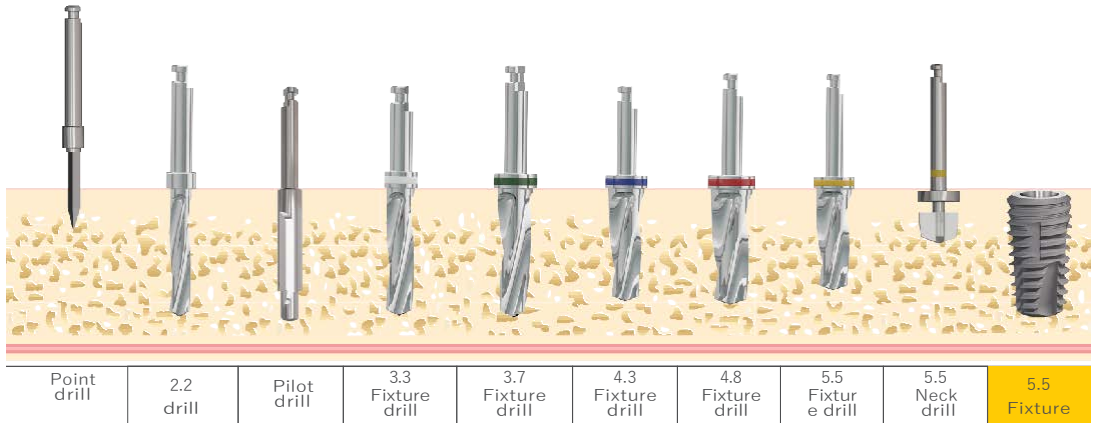
D4 Bone



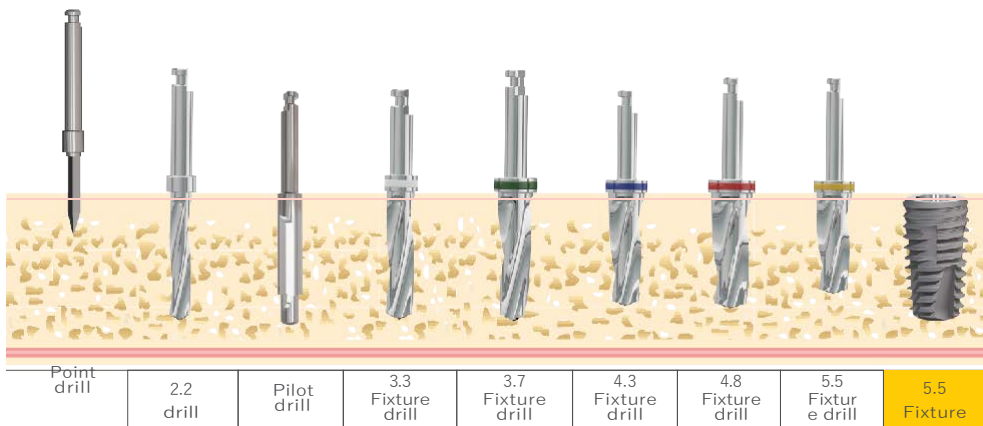
ø5.5
Fixture



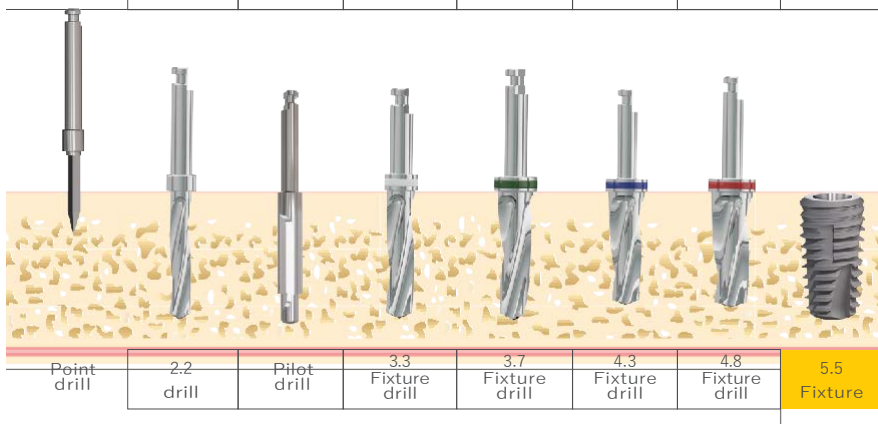
D1 Bone



D2-3 Bone



D4 Bone



SOLID SYSTEM

In Implantswiss dental implant systems, solid abutment option is available for both Bone Level and Tissue Level implants.

For bone level implants, there are 20 different sizes of Solid abutments in total including 3,7 mm (S-BMSA37--), 4,5 mm (S-BSA45--), 5,5 mm (S-BSA55--) and 6,5 mm (S-BSA65--) diameters and 1 mm - 2 mm - 3 mm - 4 mm and 5 mm gingival heights per each diameter.

There are 4 mm (S-TSA40) - 5,5 mm (S-TSA55) and 7 mm (S-TSA70) solid abutment options for tissue level implants. There are 4 mm (S-TSAL40) - 5,5 mm (S-TSAL55) and 7 mm (S-TSAL70) solid abutment options for tissue level implants.

Solid system requires impression on abutment level rather than implant level. We can describe the impression system and prosthetic steps in general, as follows;

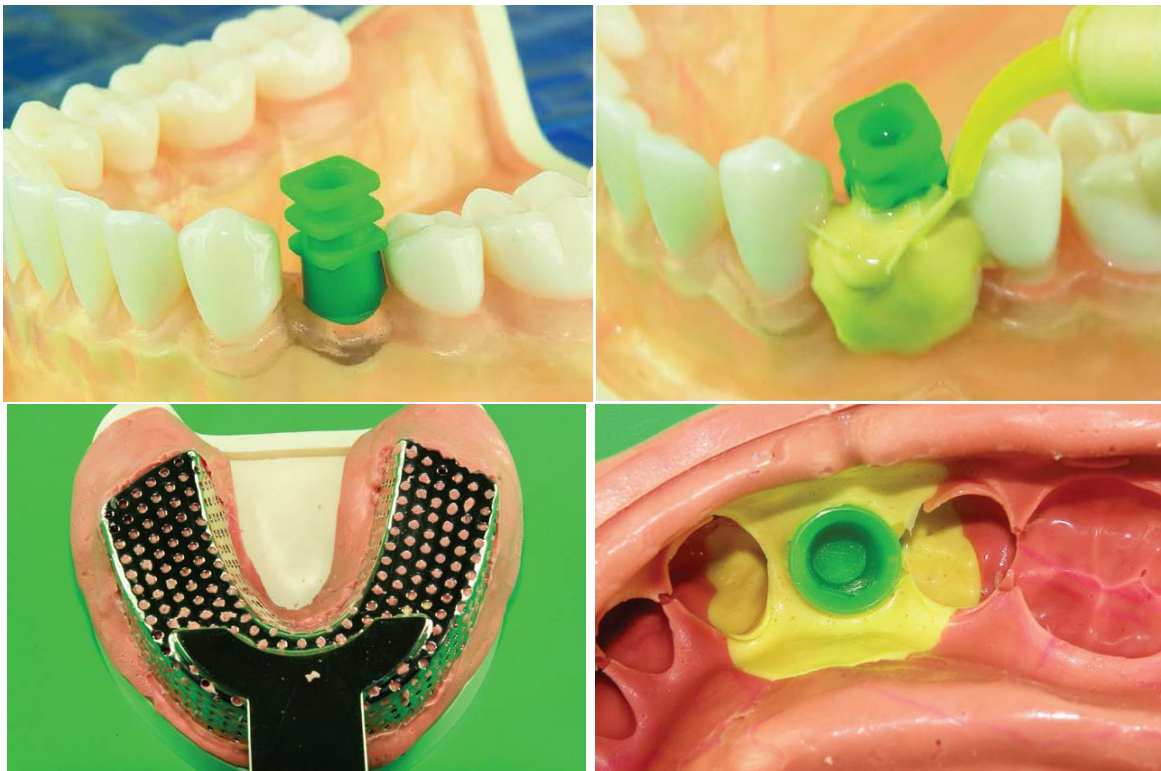


At the first step, the right abutment with proper gingival height and width is chosen, and inserted depending on the intraoral properties of the patient.

After the abutment is finally determined, torque is conducted since the implant will be permanent.



At the second step, impression is taken. The solid abutment which is used during this step won't fit into the hexagon or octagon in the implant, therefore it is possible for the abutment to take a position in infinite combinations. This position must be reflected to the plaster model accurately, and the solid system position cylinder is used for this purpose.



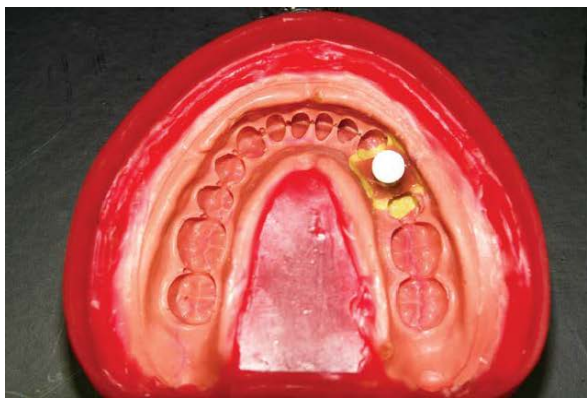
The solid system position cylinder is inserted on the abutment and impression is taken. Silicon-based impression materials should be preferred.



After impression is taken, temporary crown is cemented on the abutment with temporary cement, and the patient can use it until the next date. The temporary crown is used so that the metal surface of abutment won't disturb the patient until the next procedure, and to prevent the tissue from covering the abutment neck.

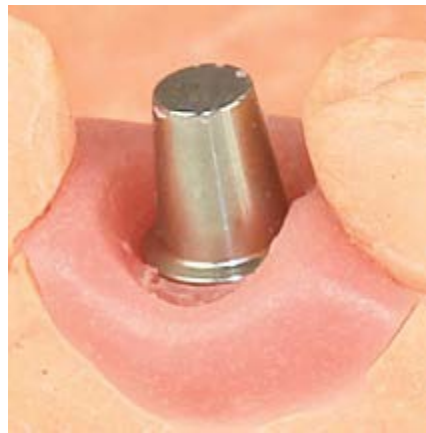


The position cylinder stands at the proper position in the impression tray, and the solid abutment analog is properly inserted on it depending on the abutment used.





Later on, plaster should be casted into the impression tray. Vibration should be necessarily applied, so that no air pockets will be formed and the plaster will reach everywhere in the tray.

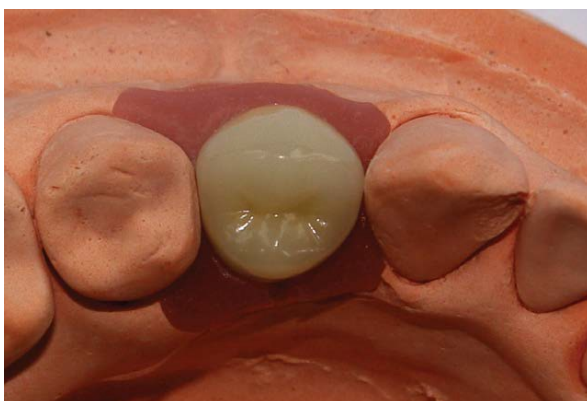


Now the technician can start the process of creating the crown on the plaster model and abutment analog.





The technician can obtain a much more accurate modeling and thus a metal compatible with the abutment by using crown for single crown implant works or casting plastic for dental bridge works depending on the work type.



The final crown is cemented on the solid abutment in the patient's mouth with permanent cement. Hereby it is quite necessary to take into consideration that, no cement residue should be left on the crown neck and in the region of collum dentes. Because bacteria can easily grow on the residual cement in this area resulting in peri-implantitis in the long term.

BONE LEVEL SOLID ABUTMENT

SOLID SYSTEM

FLOW	FIXTURE	HEALING	ABUTMENT	IMPRESSION CAP	LAB ANALOG	PLASTIC COPING
		 Closing Screw	 Solid			 Single
		 Healing Abutment	 Cap			 Bridge
TOOL	 Ratchet Driver	 1.2 Hex Driver	 Solid Driver			 1.2 Hex Driver

TISSUE LEVEL SOLID ABUTMENT

SOLID SYSTEM

FLOW	FIXTURE	HEALING	ABUTMENT	IMPRESSION CAP	LAB ANALOG	PLASTIC COPING
		 Closing Screw	 		 Shoulder Analog & Pin	 Crown
		 Healing Abutment	 Cap			 Bridge
TOOL	 Ratchet Driver	 1.2 Hex Driver	 Solid Driver			 1.2 Hex Driver

COUPLE ABUTMENT AND COUPLE SYSTEM – O-RING ABUTMENT AND LOCATOR ABUTMENT

In Implantswiss dental implant systems, couple abutment, O-ring abutment and Locator abutment options are available for both Bone Level and Tissue Level implants.

There are 16 different sizes Couple abutments in total including 1mm, (S-TCA--) - 2 mm (S-TCA--) 3 mm (S-TCA--) and 4 mm (S-TCA--) options for tissue level implants.

As for bone level implants, there are 60 different sizes of Couple abutments in total including 3,7 mm (S-BMCA37--) and (S-BMCAN37--), 4,5 mm (S-BCA45--) and (S-BCAN45--), 5,5 mm (S-BCA55--) and (S-BCAN55--) and 6,5 mm (S-BCA65--) and (S-BCAN65--) diameters and 1 mm - 2 mm - 3 mm - 4 mm and 5 mm gingival heights per each diameter.

There are 3 different sizes O-ring abutments in total including 0.5 mm (S-TORA--), 2,0 mm (S-TORA--) and 4,0 mm (S-TORA--) options for tissue level implants.

As for bone level implants, there are 9 different sizes of O-ring abutments in total including 0.5 mm (S-BMORA--), 2,0 mm (S-BMORA--), 4,0 mm (S-BMORA--), 0.5 mm (S-BORA--), 1,0 mm (S-BORA--), 2,0 mm (S-BORA--), 3,0 mm (S-BORA--), 4,0 mm (S-BORA--), 5,0 mm (S-BORA--), and 6,0 mm (S-BORA--).

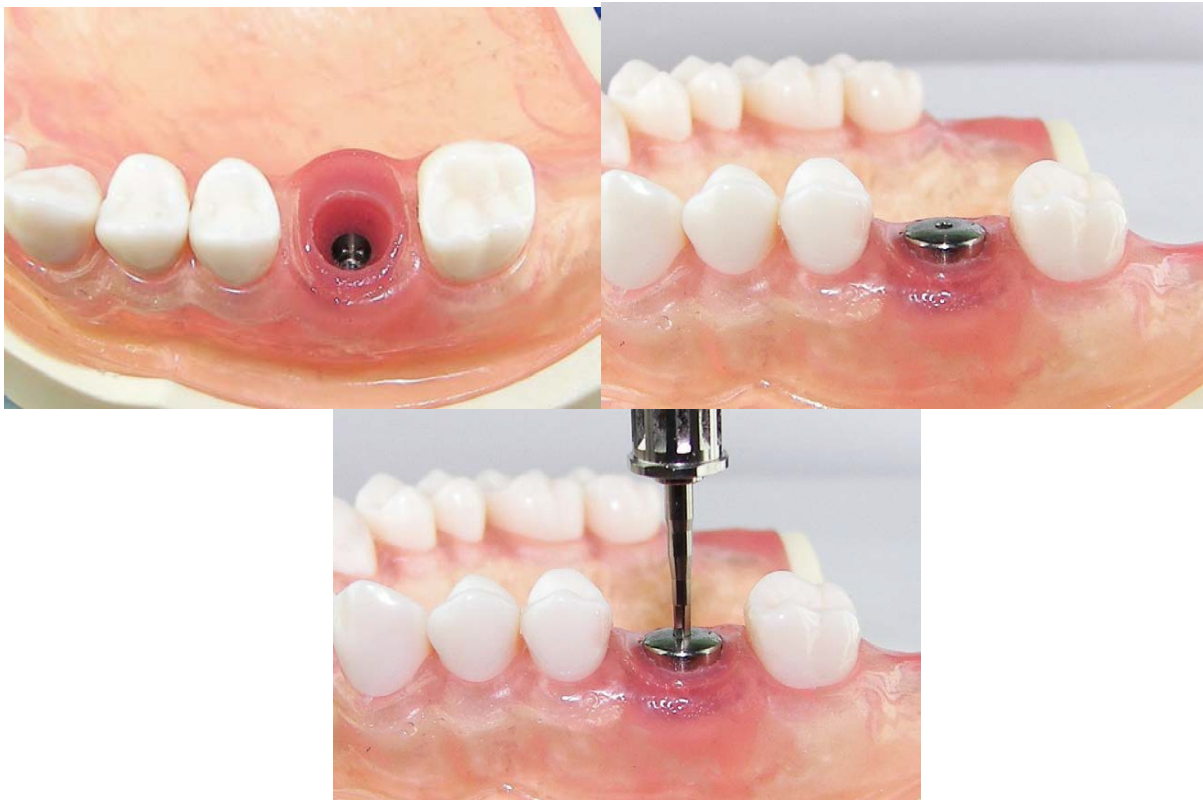
There are 6 different sizes Locator abutments in total including 1.5 mm (S-TLA--), 2,5 mm (S-TLA--), 3.5 mm (S-TLA--), 4.5 mm (S-TLA--), 5,5 mm (S-TLA--) and 6.5 mm (S-TLA--) options for tissue level implants.

As for bone level implants, there are 12 different sizes of Locator abutments in total including 1.5 mm (S-BMLA--) and (S-BLA--), 2,5 mm (S-BMLA--) and (S-BLA--), 3.5 mm (S-BMLA--) and (S-BLA--), 4.5 mm (S-BMLA--) and (S-BLA--), 5,5 mm (S-BMLA--) and (S-BLA--), and 6.5 mm (S-BMLA--) and (S-BLA--).

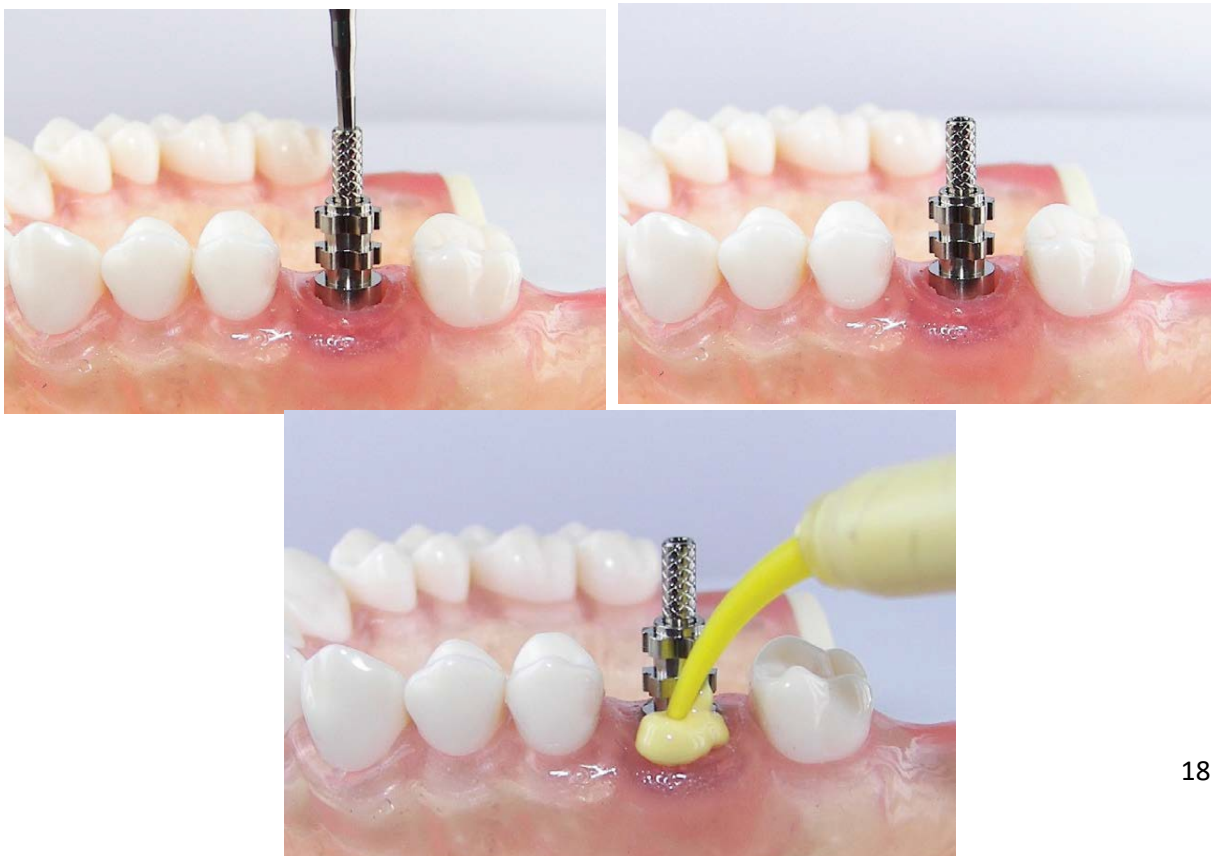
Couple abutment, O-ring abutment and Locator abutment require impression on abutment level rather than implant level. We can describe the impression system and prosthetic steps in general, as follows;

- Now we can mention about impression on the implant level and making the abutment choice on the plaster model.
- First of all, there are two different methods on impression on the implant level.
- First of these methods involves the open tray impression system which is slightly more difficult but has a much lower margin of error,
- And the second method involves the closed tray impression system which is easier than the open tray impression system but has a higher margin of error.
- We can explain each of these methods as follows:

Open tray impression system;



First of all, the healing cap in the patient's mouth is removed carefully, and if possible, the tissue should be washed with an antiseptic solution. The healing cap should also be kept in an antiseptic solution during impression.



Open tray transfer material should be inserted on the implant in the patient's mouth as can be seen in the figure. Here it is important to take attention to prefer proper diameter of impression transfer material according to the healing cap used, thus impression can be more sensitive.

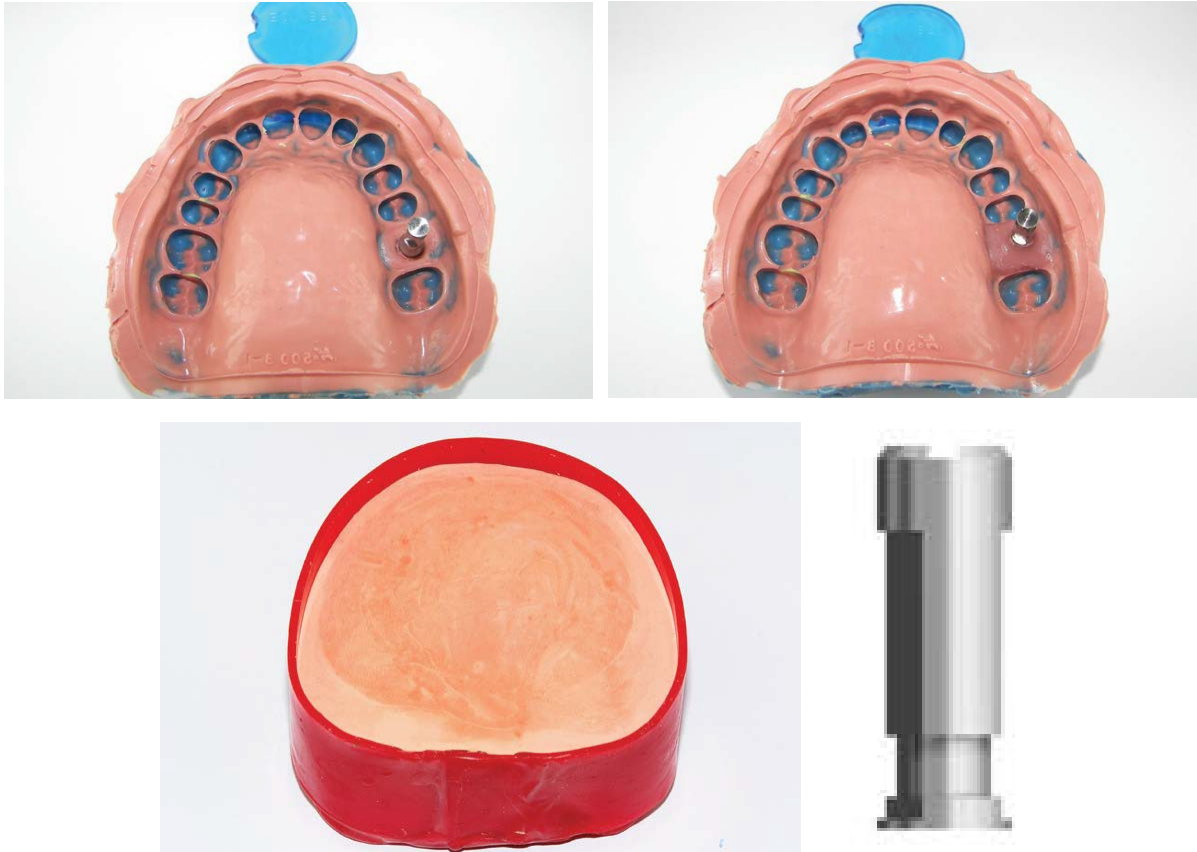
Furthermore, it is also important to confirm that hexagon on the material can fit into the hexagon in the implant during insertion of the impression transfer material. If it doesn't rotate when we try to move it towards right and left, then that means the hexagon fits into the implant.

In case of making a mistake at this stage, impression will have to be repeated and the first work will be faulty.



Later on; using the patient-specific impression tray -for which a ready disposable plastic impression tray is used as can be seen in the picture- it is necessary to drill points from which the implant comes, or to conduct another impression process before the impression transfer material is inserted, and the technician makes a special acrylic tray, then to drill points from which the implant comes. Because, the screw of the impression transfer material must go through that hole, so that we can loosen that screw after the impression material is hardened and the impression tray can be removed from the patient's mouth.

The advantage in this system involves obtaining the impression by accurately reflecting the position of the implant in the patient's mouth, since the impression transfer material will remain in the tray in the first place and won't be inserted afterwards into the tray from outside.



And then, S-TFLA coded implant analogs should be used for Tissue Level or S-TFLA, 3,3 coded implant analogs should be used for 5,5 Tissue level; S-BMFLA coded implant analogs should be used for Mini Implant and S-BMFLA coded implant analogs should be used for other Bone Level implants. Implant analog should be screwed to the impression transfer material in the tray and plaster should be casted into the tray.



An impression process is conducted and a plaster model is created on the implant level with the open tray impression system by following all these steps.

Closed tray impression system;



Though this system is basically the same with the open tray impression system, closed tray impression transfer material should be used in this one as can be seen in the picture. It is also important to prefer an impression transfer material which is at the same diameter with the healing cap as used in the open tray impression system.



A standard impression tray can be used for the closed tray impression system, because the impression transfer material will remain in the tray, and only the shape of the transfer material will be formed as a housing in the tray. In this system, implant analog and impression transfer material are combined out of the tray, and then fit into the housing which has previously been formed in the impression tray. This is why there is no margin of error in this impression system. Any mistake during insertion may require to start over the whole process.

In the next stage, the technician or dentist who will make the prosthesis can choose abutment on the plaster model. Couple abutment option is also quite abundant for both Tissue Level and Bone Level.

For Bone Level implants,

There are 20 different sizes of smooth couple abutments in total including 3,7mm (S-BMCA37--), 4,5mm (S-BCA45--), 5,5mm (S-BCA55--), 6,5mm (S-BCA65--), diameters and 1mm-2mm-3mm-4mm-5mm gingival heights per each diameter,

Furthermore there are 15 different forms of angled couple abutment options in total including 2mm and 4mm gingival heights for each diameter of 4,5 mm 5,5mm and 6,5mm for each 15 degree and 25 degree angled forms; and 1mm-2mm and 4mm gingival heights for 3,7 mm diameter for 15 degree angle.

For different indications other than the ones given above, there are stepless and 11mm high Multi Abutments at 3,7mm 4,5mm and 5,5mm diameters which can be freely shaped by the technician.

Besides, there are also Non-Hex forms of these abutments which do not fit the hexagon, and 76 different forms of Couple abutments in total for Implantswiss Bone Level implants.

For Tissue Level implants,

There are 3,5mm diameter and 6mm high Synocta abutments (S-TSOA) which fit into the octagon in the implant and use the implant neck as a step.

Furthermore there are also 5,2mm and 6,4mm diameters of Couple Abutments with 1mm-2mm-3mm-4mm gingival heights per diameter and which can step up the polished area on the implant neck.

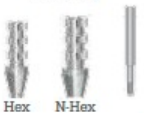
Besides 3,7mm diameter, 15 degree (S-TAA15) and 25 degree (S-TAA25) angled abutments which fit into the implant and use the implant neck as a step, as Synocta abutments do, are also available.

As in Bone Level implants, multi abutment (S-TMA) is also available for Tissue Level implants, and the diameter of these abutments is 5,2mm.

There are 12 different forms of Tissue Level Couple abutments fitting the octagon. Taking into consideration that their forms are Non-Octa, 24 different Couple abutment options in total are available for us.

BONE LEVEL COUPLE SYSTEM

COUPLE SYSTEM

FLOW	FIXTURE	HEALING	ABUTMENT	LAB ANALOG	ABUTMENT	SCREW
	 ø3.3 ø3.7 ø4.3  ø4.8 ø5.5	 Closing Screw  Healing Abutment	Pick-up  Hex N-Hex Transfer  Hex N-Hex		Couple  Hex N-Hex Multi  Hex N-Hex Angled  15° 25°	
TOOL	 Ratchet Driver	 1/2 Hex Driver	 1/2 Hex Driver			 1/2 Hex Driver

TISSUE LEVEL COUPLE SYSTEM

COUPLE SYSTEM

FLOW	FIXTURE	HEALING	ABUTMENT	LAB ANALOG	ABUTMENT	SCREW
	 ø3.7 ø4.3-L06 ø4.3  ø4.8-L06 ø4.8 ø5.5	 Cover Screw  Healing Abutment	Pick-up  Hex N-Hex Transfer  Hex N-Hex		Couple  Hex N-Hex Multi  Hex N-Hex Angled  15° 25° Syrocta  Hex N-Hex	
TOOL	 Ratchet Driver	 1/2 Hex Driver	 1/2 Hex Driver			 1/2 Hex Driver

OCTA AND MULTI-UNIT ABUTMENTS FOR OCCLUSAL SCREWED RESTORATIONS



If a short crown without enough space left for cement is to be made especially on the posterior, occlusal screwed restoration will be preferred, which can be conducted as a single crown or dental bridge. An occlusal screwed dental bridge restoration will be conducted on the teeth numbered 4 and 5 on the mandible given in the picture above.



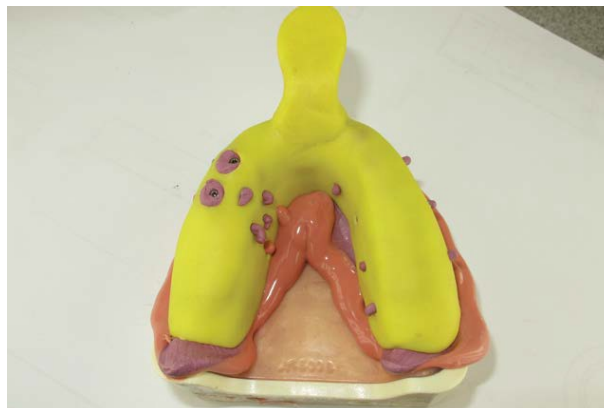


First of all, appropriate octa abutment or multi-unit abutment is chosen and torqued with 25 NCm.

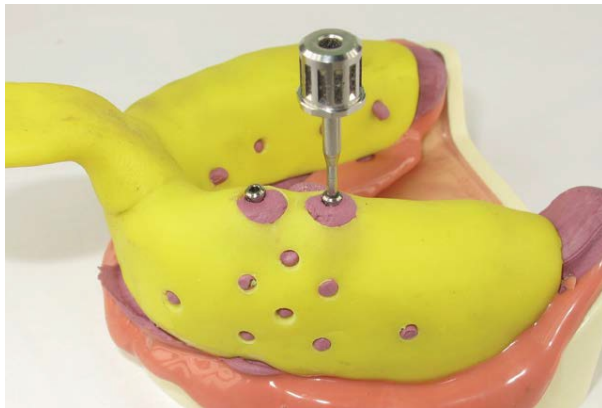
There are 16 different sizes Multi-unit abutments in total including 4.8 mm (S-BMMUA48--) and (S-BMUA48--) and 170 angled with 4.8 mm (S-BMUA4817-) and 250 angled with 4.8 mm (S-BMUA4825-) 1mm, 2mm and 3mm gingival heights options for bone level implants.

The process and materials used for Tissue Level and Bone Level implants are the same. However, one of the abutments S-BOA10 - S-BOA20 - S-BOA30 - S-BOA40 or S-BOA50 offering 5 different gingival heights from 1mm to 5mm can be chosen according to the proper gingival height for Bone Level, while we use S-TOA Octa abutment for Tissue Level.

Later on, we chose one of the impression transfer materials for open tray (S-ICOAP) or closed tray (S-ICOAT) and insert it on the previously torqued abutment.



And then impression is taken, and again, it would be useful to prefer silicon-based impression materials.

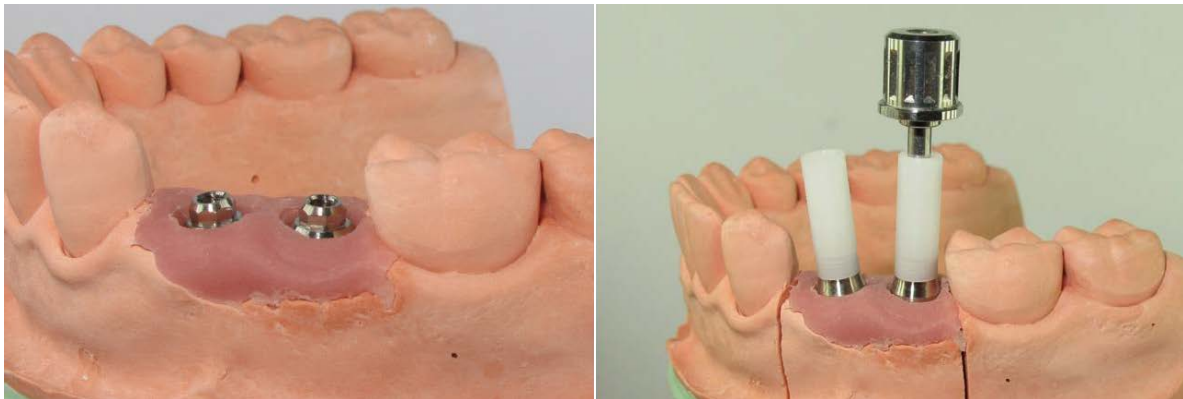


After the impression material is hardened, impression tray is removed, and S- OAHCup, the special healing cap of Octa system, is inserted on the abutment in the patient's mouth, so that gum doesn't cover the abutment while we work in the laboratory.

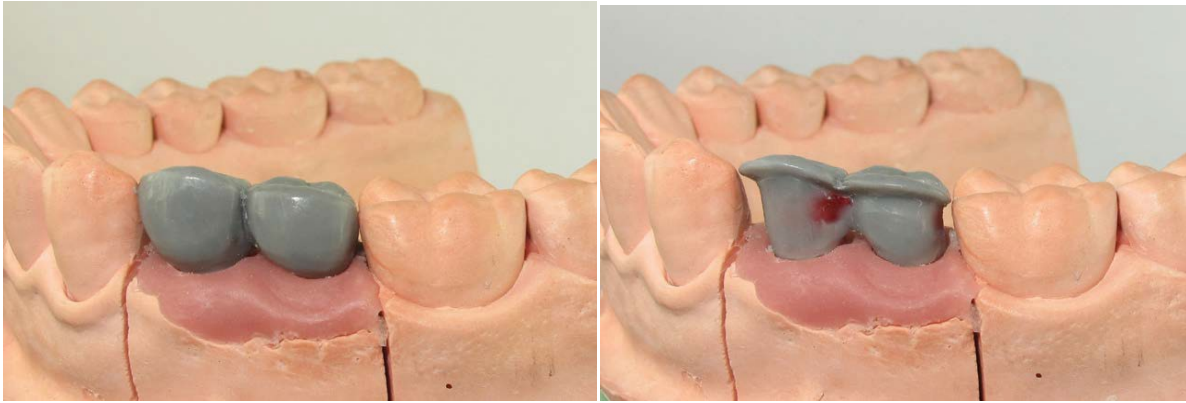




In the following process, S-OALA, which is the analog of Octa sytem, is combined with the impression transfer material in the impression tray, and plaster is casted into the tray. Once again, it is quite important to use vibration on plaster casting in order to obtain a clear plaster model.



Now, the technician can work on the plaster model; and adjust S- OAPICyN (White) casting plastics designed for dental bridges, and S-OAPICy (Black) casting plastics designed for single crowns, to the model with the occlusal screw included in the package and carry out wax modeling.



Wax modeling and then metal casting is conducted.



And the occlusal screwed crowns are ready.



Finally, these occlusal screwed crowns are inserted on the Octa abutment in the patient's mouth and fixed to the mouth with occlusal screw included in the package of Octa abutment. Then, they are torqued with 20 Ncm and the restoration is completed.

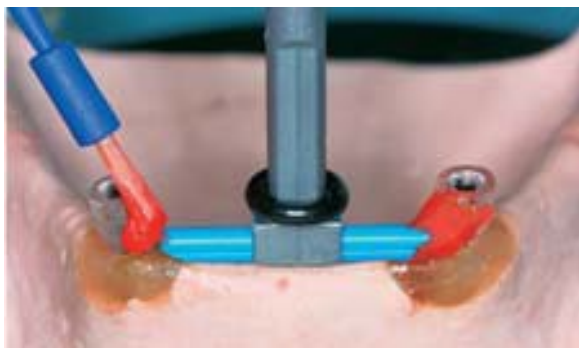
OCTA SYSTEM

FLOW	FIXTURE	HEALING	SUB OCTA ABUTMENT	IMPRESSION COPING	LAB ANALOG	LAB CYLINDER	SCREW
 Ø3.3 Ø3.7 Ø4.3		 Closing Screw	 Octa Healing Cap	 Pick-up		 Octa	
 Ø4.8 Ø5.5		 Healing Abutment	 Octa Abutment	 Transfer		 N-Octa	 Screw
TOOL	 Ratchet Driver	 1/2 Hex Driver	 Octa Driver				 1/2 Hex Driver

Hybrid Prosthesis

Bar System;

Here, a bar is constructed by using the Octa system, and the hybrid prosthesis is fit into this bar. At the first stage, abutment is inserted and plaster model is prepared as described before in the Octa system.



Bridge coping is adjusted between casting copings on the plaster model with inserted octa abutment analog by the help of a castable bar wax, and the plastic bar, which has already been prepared, is then taken to the casting process. Casted bar is inserted on the plaster model.



Later on, positioner clip is adjusted on the bar, and castable plastic will form the required housing so that bar matrixes can appropriately fit on the metal housing on which positioner clip will be casted. And then, wax modeling is made for the housing and castable box is adjusted on areas where positioner clips are located on the wax modeling,



Later on, wax is filled around castable box, and the housing becomes castable.



Retentive cap with appropriate hardness is inserted into the casted metal housing. And then, acrylic hybrid prosthesis is prepared and removed from the plaster model with the bar and adjusted according to the patient's mouth.

O Ring Ball Attachment System;



One of 0,5 mm - 1mm- 2mm- 3mm- 4mm- 6mm gingival height options is chosen and inserted into the patient's mouth and torqued with 25 Ncm.



O-RING SYSTEM

FLOW	FIXTURE	HEALING	O-RING ABUTMENT	O-RING LAB ANALOG	RETAINER
	 ø3.3 ø3.7 ø4.3 ø4.8 ø5.5	 Closing Screw	 O-Ring Abutment	 O-Ring Lab Analog	 O-Ring
		 Healing Abutment			 O-Ring Retainer
TOOL	 Ratchet Driver	 1/2 Hex Driver	 O-Ring Driver		

PREMILL ABUTMENT

There are 5 different sizes of blank Premill abutments in total including 10 mm, 14 mm and 16 mm premilled diameter (S-BPA--) and 10 mm and 14 mm premilled diameter (S-BMPA--) options for bone level implants.

There are 6 different sizes of blank Premill abutments in total including 10 mm, 14 mm and 16 mm premilled diameter (S-TPA--) and 10 mm, 14 mm and 16 mm premilled diameter (S-TWPA--) options for tissue level implants

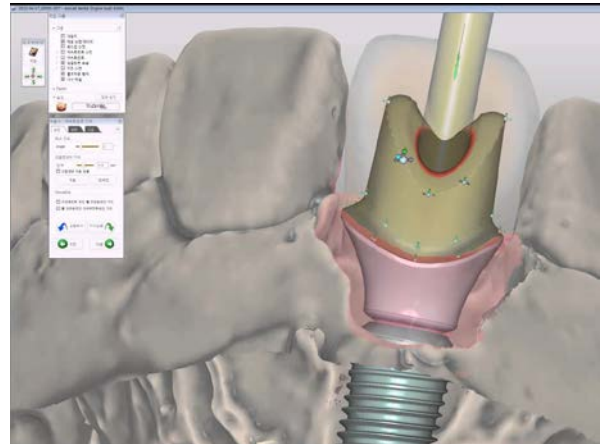
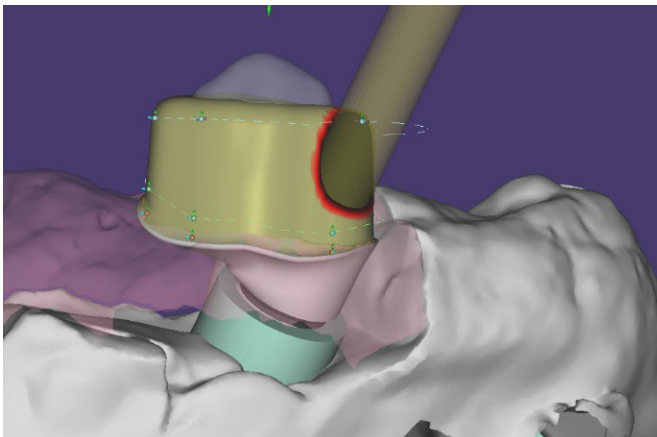
Premill abutment prosthetic steps is described in general, as follows;



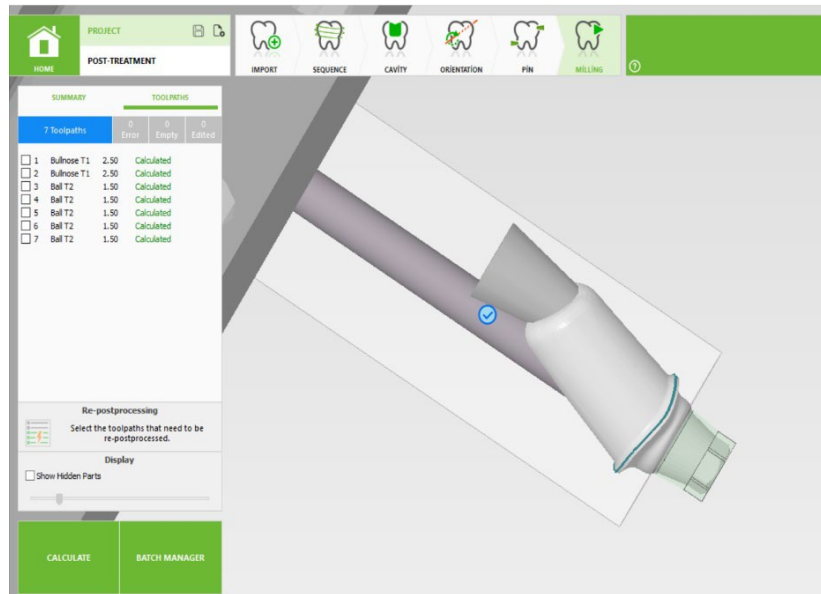
Scan body is fixed to patient mouth or plaster model.



Scan data is obtained from intraoral scanner or desktop scanner.



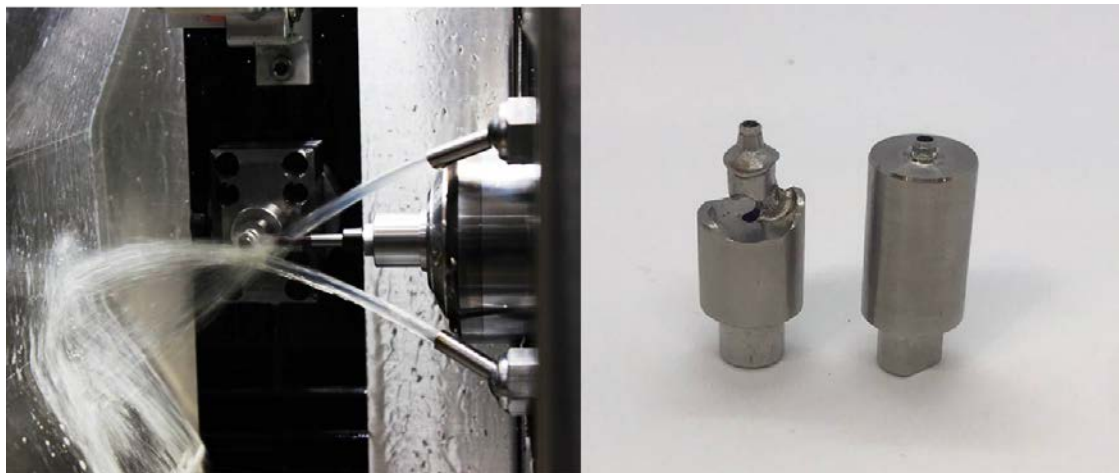
Crown designs with CAD program by the validated milling center



Codes are calculated in CAM program.



Premill abutment is fixed to CNC holder (in the validated milling center).



Finished custom abutment is obtained from the premill abutment after the machining process.



The finished custom abutment is fixed to patient mouth.



The prosthesis superstructure is cemented to custom abutment and it is completed.

Please Note: Angular correction cannot be fabricated into the design of any of the Octa and Multi-Unit Abutment models when combined with casting plastic or cylinder during patient-specific customization.

Patient specific customization of the Couple, Multi and Synocta Abutments must not exceed the following specifications:

- Maximum Angulation 5°
- Minimum Abutment Height 4 mm
- Minimum Abutment Diameter 3.5 mm
- Minimum Wall Thickness mm 0.5 mm

Patient specific customization of the Premill Abutments must not exceed the following specifications:

- Maximum Angulation 25°
- Maximum gingival/collar height 5 mm
- Maximum Abutment Post Height 7 mm
- Maximum Abutment Diameter 6.5 mm
- Minimum gingival/collar height 1 mm
- Minimum Abutment Post Height 5 mm
- Minimum Abutment Diameter 4.0 mm
- Minimum Wall Thickness mm 0.5 mm

The tightening torque requirements for fixation of:	N
Solid Abutments	35
Abutment Screw for Couple Abutments	25
O-ring Abutments	25
Octa Abutments	25
Abutment screw for Octa Abutments	25
Healing Abutments	20
Closing Screw	10-15 (by hand)
Locator Abutments	25
Multi Unit Abutments	25
Multi Abutments	25
Premill Abutment	25
Ti-Base Abutment	25