

6.

Step-by-Step

Cemented Bridge

Using CPK Abutments

Internal Hex. Implant System



mis[®]
Make It Simple



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is proud to present this multiple unit cemented bridge internal hexagon implant reconstruction procedure. This manual explains, step by step, the procedure while using MIS components. MIS scientists and engineers are committed to the research and development of new products and technologies. Our commitment extends to passing on procedural and product information through training and instruction.

Questions, comments or requests will be addressed promptly by contacting MIS specialists directly through our e-mail address: service@mis-implants.com. MIS's internet website can be accessed at www.mis-implants.com. This on-line site highlights current products and reflects all new discoveries and developments.

A Cemented Bridge on Multiple Implants

Cementation of an implant-retained bridge is a staged process. There are two ways to secure a bridge: with screws or cementation. This brochure will present the cemented method, specifying the stages while using the closed tray impression technique. The impression and choice of materials should be considered as recommendations only. The cemented bridge method has both advantages and disadvantages:

Advantages

A prefabricated abutment can be used ■ Perfect optimal esthetic occlusal surface is achieved – in the case of a cemented bridge, the screws are invisible ■ Reduces costs and makes the technician's laboratory work simpler ■ Passive fit is achieved between the bridge and the abutments

Disadvantages

Not suitable for limited interocclusal dimensions ■ Cement excess must be totally removed ■ Difficult to remove after cementation ■ Implants must be parallel before placing the CPK abutments ■ Using of fabricated abutments is not suitable for all clinical cases that need custom made abutments

General Information

1. Initial planning is of utmost importance. The dentist performing the prosthetic stage of the treatment should be an active participant, together with the surgeon, in the decisions affecting the choice of the implants, the type of the prosthesis (cemented or screw retained) and the three dimensional positioning of the implant. It is a prosthetic driven procedure.
2. Bridge reconstruction on implants is considered in cases where a number of teeth are missing. For a proper and easy bridge reconstruction it is essential to pay attention to parallel insertion and accurate spacing between the implants according to the teeth needed to be replaced.

Restorative components table

Indications for Using MIS Restorative Components

* For recommendation purpose

Location >	Anterior Maxilla		Anterior Mandible	Canine, Premolars and Molars						Premolars and Molars
Crown/ Implant Inclination Ratio	Crown/ implant angulation between 15-25°	Crown/ implant angulation between 15-25°	Crown/ implant angulation 2.5°	Crown/ implant angulation 3.5°	Crown/ implant angulation 3.5°	Crown axis parallel to implant axis	Crown axis parallel to implant axis	Crown axis parallel to implant axis	Crown/ implant angulation between 15-25°	Crown/implant angulation 4°
Gingival Profile	Buccal- low level Palatal- high level	Buccal- low level Palatal- high level	Horizontal gingival level	Buccal- low level Palatal- high level	Buccal- low level Palatal- high level	Grinding the abutment shoulder to meet the gingival contour	Grinding the abutment shoulder to meet the gingival contour	Any gingival profile	Buccal- low level Lingual- high level	Horizontal gingiva level
Gingival Height	Up to 2mm buccal Up to 4mm palatal	Up to 4mm buccal Up to 6mm palatal	Very low gingival height	Up to 2mm buccal Up to 4mm lingual/palatal	Up to 2mm buccal Up to 6mm lingual/palatal	Grinding the abutment to meet the gingival height	Grinding the abutment to meet the gingival height	Up to 2mm	Up to 2mm buccal Up to 4mm lingual	According to gingival height available in heights of 1,2,3,4mm
Catalog Number	MD-A1510 MD-A2510	MD-P1530 MD-P2530	MD-CTP10	MD-CR010	MD-A0010 MD-P0030	MD-MAC10 MD-WMAC1	MD-MACF1	MD-GPC10 MD-GP010	MD-AN151 MD-AN251	MD-CPK41 MD-CPK63 MD-CPK42 MD-CPK64 MD-CPK43 MD-CPK81 MD-CPK44 MD-CPK82 MD-CPK61 MD-CPK83 MD-CPK62 MD-CPK84
Abutment > description	Esthetic angulated abutment	Esthetic angulated abutment	Conical post abutment	Zircon - Zro2 esthetic abutment	Esthetic abutment	Standard post abutment	Friction fit post platform switching	Screw-retained gold-plastic abutment	Angulated abutment	Anatomic transgingival abutment
										
										

The CPK System

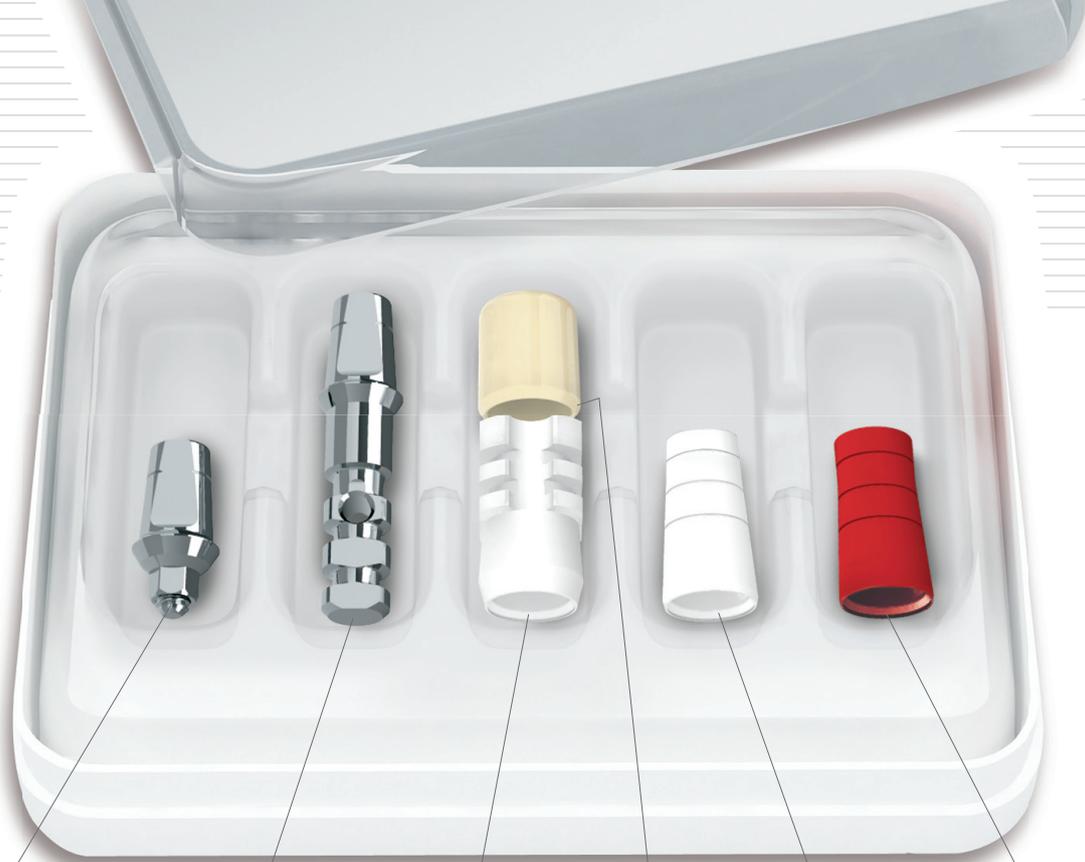
(Complete Prosthetic Kit)

This manual is a guide for the use of the CPK system, designed especially for reconstruction on parallel inserted implants. The Complete Prosthetic Kit (CPK) has been designed to enable an easy impression and transfer technique. The CPK includes ready-made components for the entire cemented restoration procedure, and is especially designed to provide high esthetics and flexibility in a variety of prosthetic cases. Furthermore, the kit is suitable for restoration in all the various locations in the mouth.

It combines all the necessary components for the dentist to take an impression after implantation, as well as all the elements used by the technician for fabricating crowns and bridges. The Complete Prosthetic Kit enables a simple restorative process by offering 4 vertical heights of standard or wide platforms, without any necessary adjustments, nor additional elements.



CPK components
(cutaway view)



Anatomic cementing
transgingival abutment
MD-CPK61

Abutment analog
MD-RSM60

Impression coping
plastic cap
MD-IC800

Plastic healing cap
MM-CHC60

Burn-out
plastic cap
MD-IC040

Burn-out anti-rotation
plastic cap
MD-ICH40

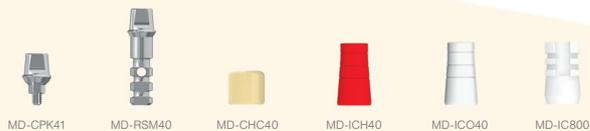
* The CPK abutment can be used for internal hexagon implants.
* The CPK procedure is illustrated in this brochure.

Kit options table

STANDARD PLATFORM

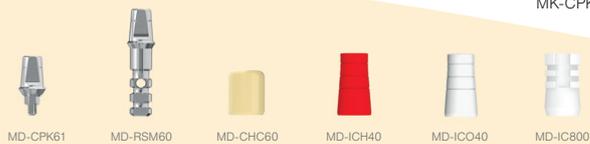
Option

1.



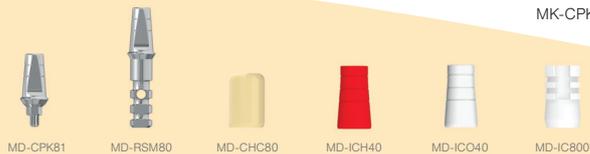
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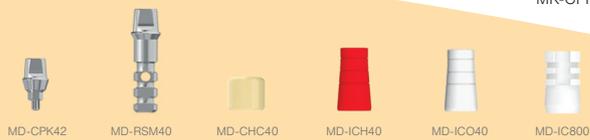
Option

3.



Option

4.



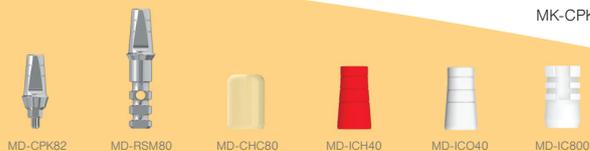
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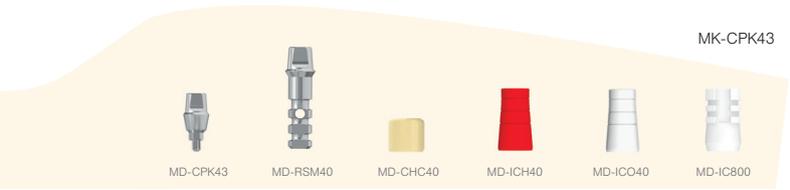
5.



Option

6.





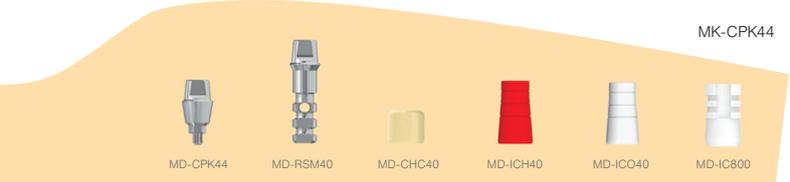
Option
7.



Option
8.



Option
9.



Option
10.

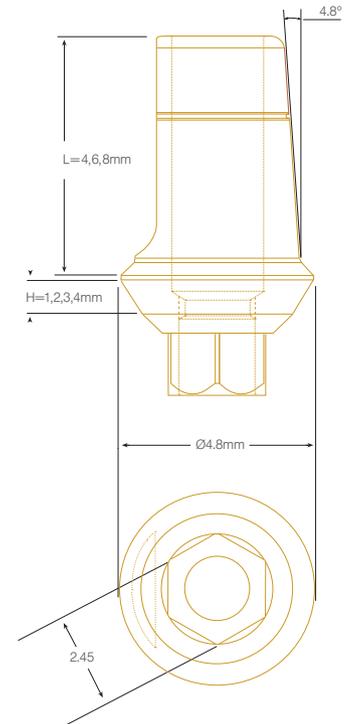


Option
11.



Option
12.

Anatomic transgingival abutment dimensions:



L - crown height
H - gingival height

Kit options table

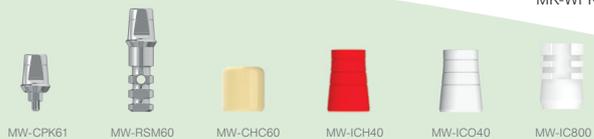
WIDE PLATFORM

Option
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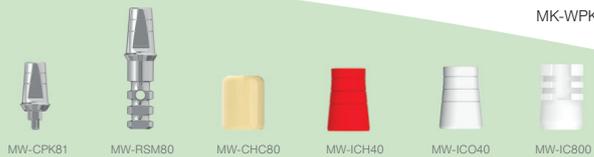
MK-WPK41

Option
2.



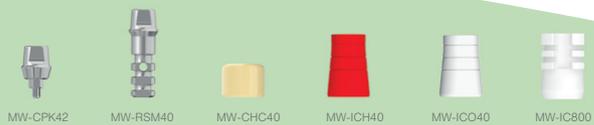
MK-WPK61

Option
3.



MK-WPK81

Option
4.



MK-WPK42

Option
5.



MK-WPK62

Option
6.



MK-WPK82

MK-WPK43



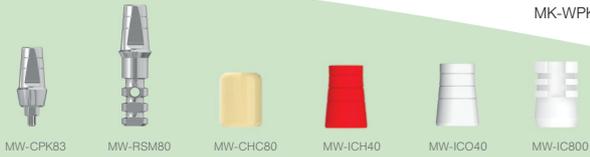
Option 7.

MK-WPK63



Option 8.

MK-WPK83



Option 9.

MK-WPK44



Option 10.

MK-WPK64



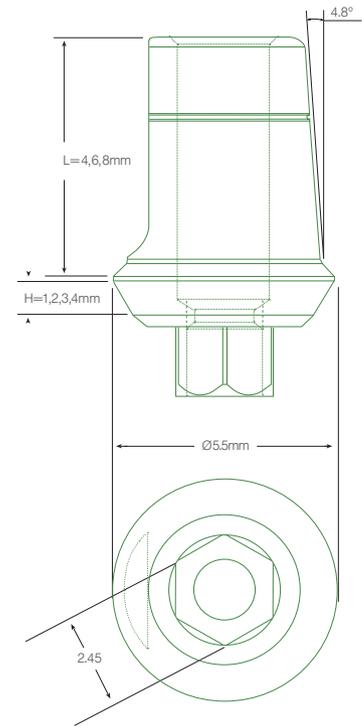
Option 11.

MK-WPK84



Option 12.

Anatomic transgingival abutment dimensions:



L - crown height
H - gingival height

Step 1.

Components:



A. Implant exposure

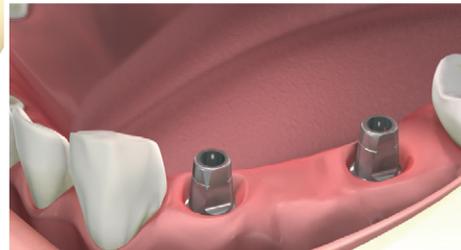


Implant exposure

The restoration phase begins after the healing period.

Using the CPK system enables the dentist and technician to make a primary model before placing the healing caps and thus to shorten the restoration procedure.

B. Placing the anatomic cementing abutments on the implants



Placing the anatomic cementing transgingival abutments

Place the anatomic cementing transgingival abutments on the implants according to tissue deepness. The abutments are available in four transgingival heights of 1,2,3 and 4mm.

The MD-CPK61(Anatomic cementing transgingival abutment) is attached by tightening an MD-S0220 with the help of the MT-HDL30 hex. driver. The recommended tightening moment with the torque wrench is 35 Ncm.

Step 2.

Components:



Implant
MF7-11375

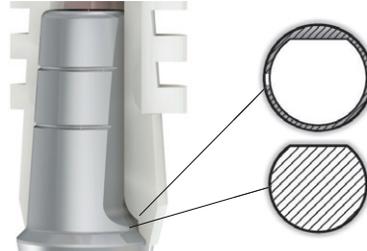


Anatomic cementing
transgingival abutment
MD-CPK61



Impression coping
plastic cap
MD-IC800

A. Placing impression coping plastic caps (transfer coping) for closed tray technique

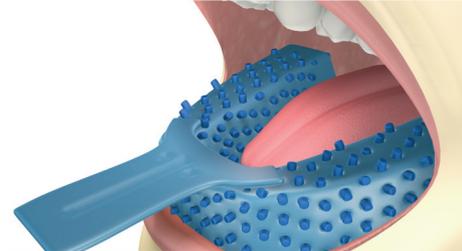
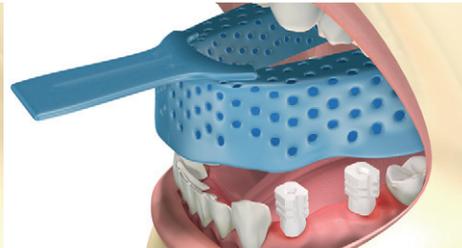


Indicate the correct location of the impression coping plastic cap on the abutment. It is a snap engagement.

The closed tray impression technique is used for a cemented bridge. Insert the impression coping plastic caps MD-IC800 on the anatomic cementing transgingival abutments MD-CPK61.

To ensure correct placement, the impression copings should be placed on the anatomic cementing transgingival abutments in a way that the groove on the top of the plastic is located in the same flank of the flat area of the abutments. Correct location is indicated by stable seating of the plastic (snap engagement).

B. Taking the impression



Closed tray impression technique with impression material in the mouth

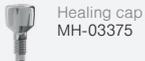
In order to achieve an optimal impression, the coping must be completely covered by impression material and the tray fully seated.

Recommendation:

Use a silicone impression material with high shore hardness to ensure stability and retention of the impression coping in the impression material.

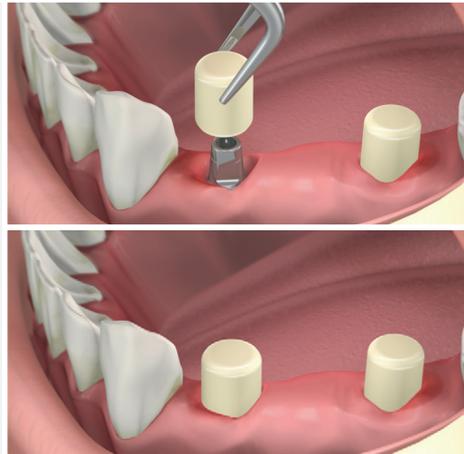
Step 3.

Components:



A. (Optional A)

Connecting the plastic healing caps



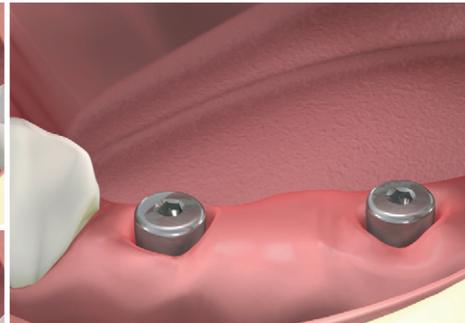
Plastic healing caps in place

Temporary plastic healing caps MM-CHC60 are temporarily cemented to the anatomic cementing transgingival abutments in the patient's mouth. In this stage, it's possible to fabricate a cemented temporary crown or bridge on the anatomic cementing transgingival abutments.

The advantage of using the plastic healing caps is that the gingival height is already fitted to the abutments. This procedure avoids re-opening and re-tightening the abutments, as necessary when using the titanium healing caps.

B. (Optional B)

Connecting standard or anatomic healing caps



Connecting standard or anatomic healing caps

In order to connect the titanium healing caps, it is necessary to remove the anatomic cementing transgingival abutments from the implants. The healing caps are made of titanium and are available in 3 to 6 mm heights (standard and anatomic caps), 4 mm diameter (standard) and 5.5 mm (anatomic) diameter caps.

Healing caps of height and diameter consistent with tissue thickness are placed on the implants. The healing cap must be 1 mm above the gingiva. The healing caps can be removed approximately three weeks after placement of healing of gingiva, using an MT-HHR13 hex. driver.

Step 4.

Components:



Impression coping plastic cap
MD-IC800



Abutment analog
MD-RSM60

A. Closed impression tray with impression coping plastic caps



The impression coping plastic caps

The impression coping plastic caps are clearly visible in the impression.

It is important to confirm proper seating of the impression copings by visually checking that no impression material is present in the inside surface of the impression coping plastic cap.

B. Attaching the abutment analogs



The abutment analogs attached to the impression coping

The standard abutment analogs MD-RSM60 can now be attached to the impression coping plastic caps.

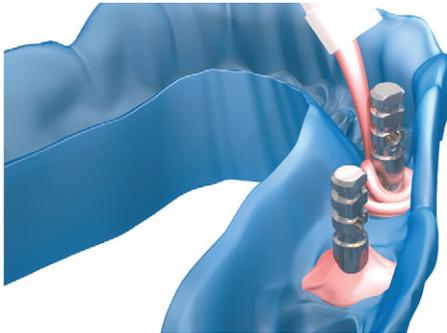
Proper seating of the standard abutment into the impression coping plastic cap should be checked. No gaps or misalignment should be evident. (snap engagement).

Note:

Indicate the right location of the impression coping plastic cap on the abutment.

C.

Simulation of gingiva



Injecting impression material between analogs and impression copings

At this stage, injecting simulated gingival material around the neck of the analogs and impression copings simulates the gingiva and facilitates access to the analogs for laboratory work.

Note:

It is recommended to isolate the impression material from the simulated gingiva with a special isolation material, in order to avoid connection between the two materials.

Step 5.

Components:



Abutment analog
MD-RSM60



Stone model with abutment analogs

A. Stone model with abutment analog and simulated gingiva

Use the final impression to create a master cast model (stone cast type 4 or epoxy material).

After the stone model has hardened, the closed tray is removed. The impression coping plastic caps remains inside the tray.

Step 6.

Components:



Abutment analog
MD-RSM60

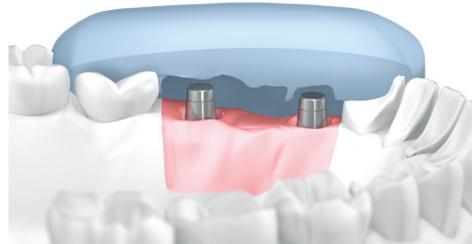
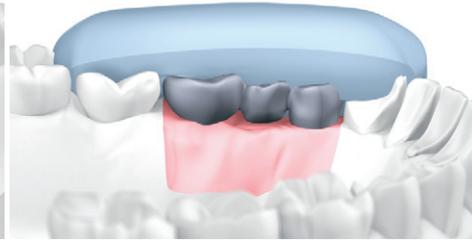
A. Preparation of diagnostic wax-up using a silicone index



A wax-up on the stone model

On the stone model, above the anatomic cementing transgingival abutments, a wax-up of the missing teeth is prepared in a way that it will fill the space between the adjacent and opposing teeth.

B. Silicone index taken of the wax-up



Silicone index

A silicone key (index) is prepared, and then serves as a negative replica of the missing teeth.

Step 7.

Components:



Abutment analog
MD-RSM60



Burn-out plastic cap
MD-IC040

A. Placing the burn-out plastic caps on the stone model



The burn-out plastic caps on the stone model

Following the construction of the silicone index, the burn-out plastic caps (MD-IC040) are positioned on the abutment analogs.

B. Occlusal adjustment of burn-out plastic caps



Occlusal adjustment of burn-out plastic caps

The occlusal adjustment of the burn-out plastic cap can be accomplished by simply removing excess height with a hot surgical blade.

Optional



Burn-out anti-rotation plastic cap
MD-ICH40

The CPK system includes a burn-out anti-rotation plastic cap for single unit cemented crown cases.

C.
Filling the burn-out plastic cap



Burn out wax on the plastic.

The adjustment burn-out plastic cap window is filled with burn-out wax.

D.
Verifying spacing



Verifying the proper spacing between the burn-out plastic caps and the silicone index.

The silicone index is used to verify the correct position and height of the burn-out plastic caps.

Step 8.

Components:



Abutment analog
MD-RSM60



Burn-out plastic cap
MD-IC040

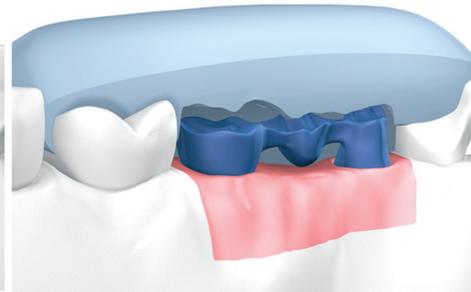
A. Wax carving



Wax carving

When the burn-out plastic caps are correctly positioned, it is possible to carve the wax to the desired shapes leaving approximately 2mm of space for the porcelain.

B. Silicone index with wax-up



Silicone index with wax-up

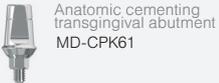
The silicone index is used to verify that the space that was left is correct for the porcelain.

Note:

In order to achieve an accurate fit between the cast bridge and analog abutments, make sure that when the wax bridge is removed from the abutments, no unnecessary residue is left inside.

Step 9.

Components:



A. Metal casting



Metal casting

Follow conventional metal casting techniques, by spruing, investing and casting the framework pattern.

The investment and the burn-out process following manufacturer instructions. This process will ensure total plastic burn-out. Then raise the heat to the desired casting temperature.

B. Grinding the interior of the metal framework



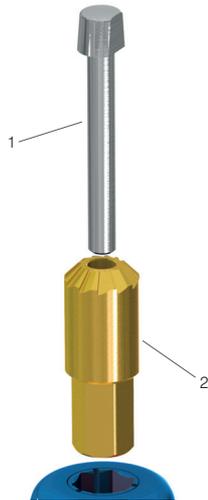
Grinding the cast bridge with a micromotor

To ensure accurate sitting of the cast framework on the prosthetic abutments, it is essential to grind and remove the metal undercut with a micromotor.

The plastic copings for CPK abutment are fitted utilizing a snap mechanism. This allows the abutment to be perfectly positioned and fixed on the analog.

C.

Shoulder reamer assembly sequence



The shoulder reamer (MT-CS450) assembly

The snap mechanism can be removed using the finishing tool "shoulder reamer". The assembly is composed of two parts: the guide pin(1) and the shoulder reamer(2).

C. (continue)

The finishing grinding with the shoulder reamer



Grinding the cast bridge with the shoulder reamer

The finishing grinding with the shoulder reamer can be done with the help of prosthetic holder MK-0001 or by hand.

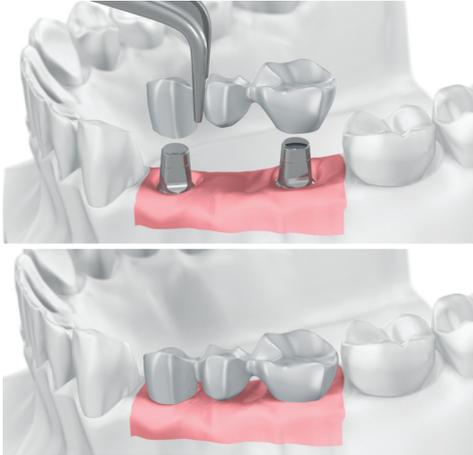
It is important to completely remove all casting residues in order to have the correct positioning of the framework on the prosthetic abutment.

Note:

Remove most of casting residues using burr before using the MIS shoulder reamer. It is recommended to use MIS shoulder reamer only for final fitting of the framework. It is easy to work with MIS shoulder reamer on the casted sprue and only for final fitting.

D.

Seating the metal framework on the stone model



Metal framework on the stone model

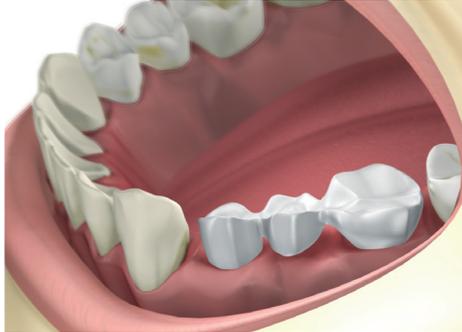
Check and adapt the metal framework according to conventional laboratory techniques.

Note:

The technician must confirm that a passive fit has been achieved in this stage. Check the cast bridge on the stone model to ensure that it fits the abutment analogs exterior.

E.

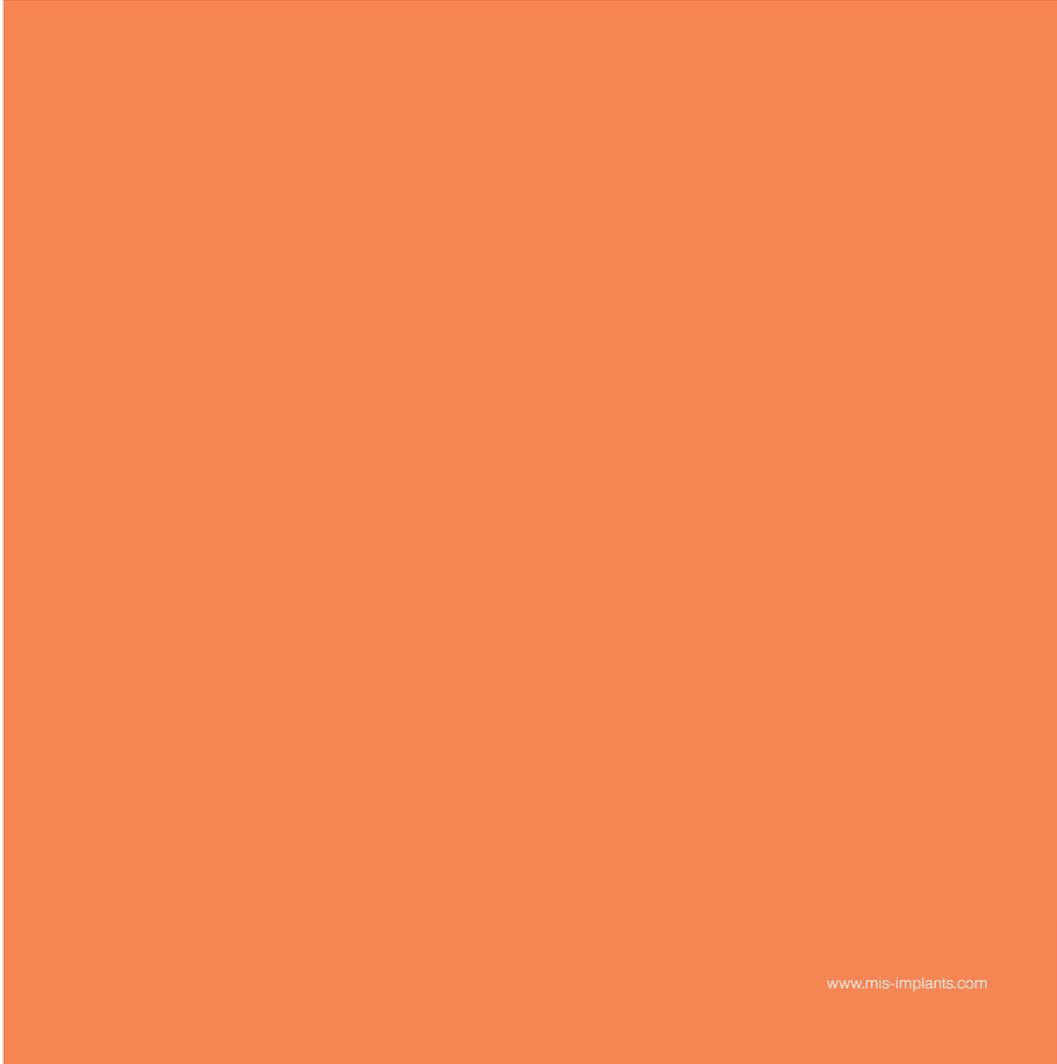
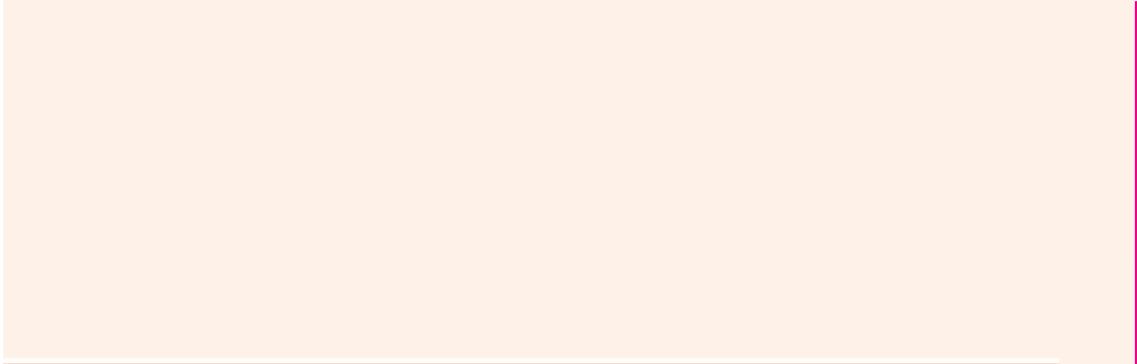
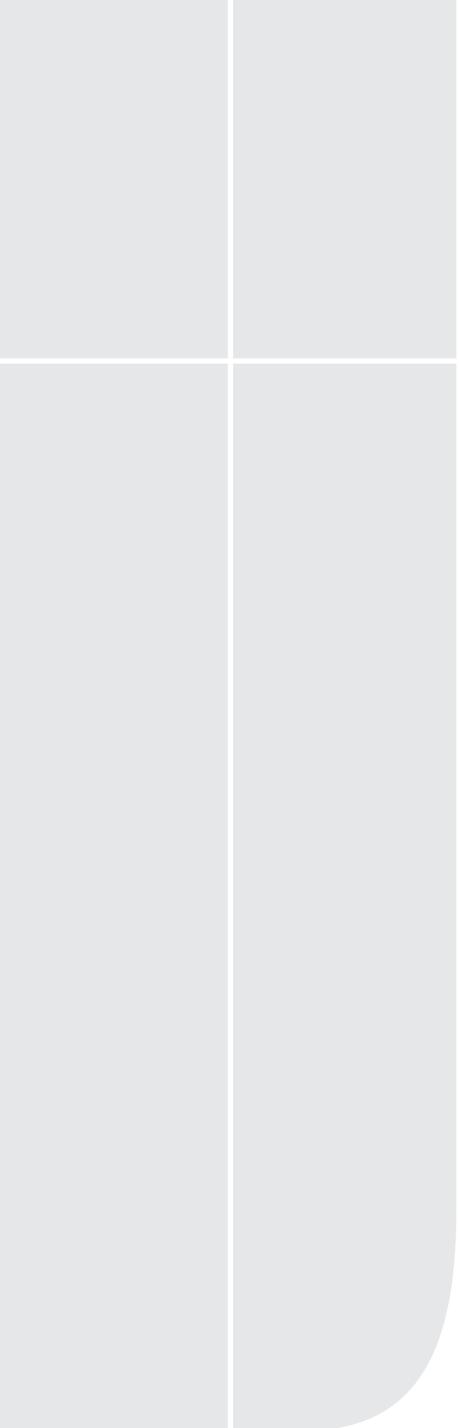
Check the metal framework in the patient's mouth



Check the metal framework in the patient's mouth

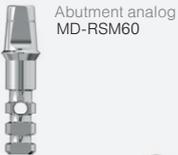
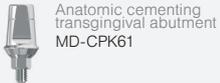
After casting is completed, check the fit of the metal framework in the patient's mouth.

Special attention must be given to the passive fit of the metal framework on the prosthetic abutments.



Step 10.

Components:



A. Porcelain build-up



Porcelain on the stone model

Following the selection of the appropriate shade, the porcelain is fired onto the metal cast and the porcelain bridge is placed on the stone model (the process is performed according to routine laboratory procedures).

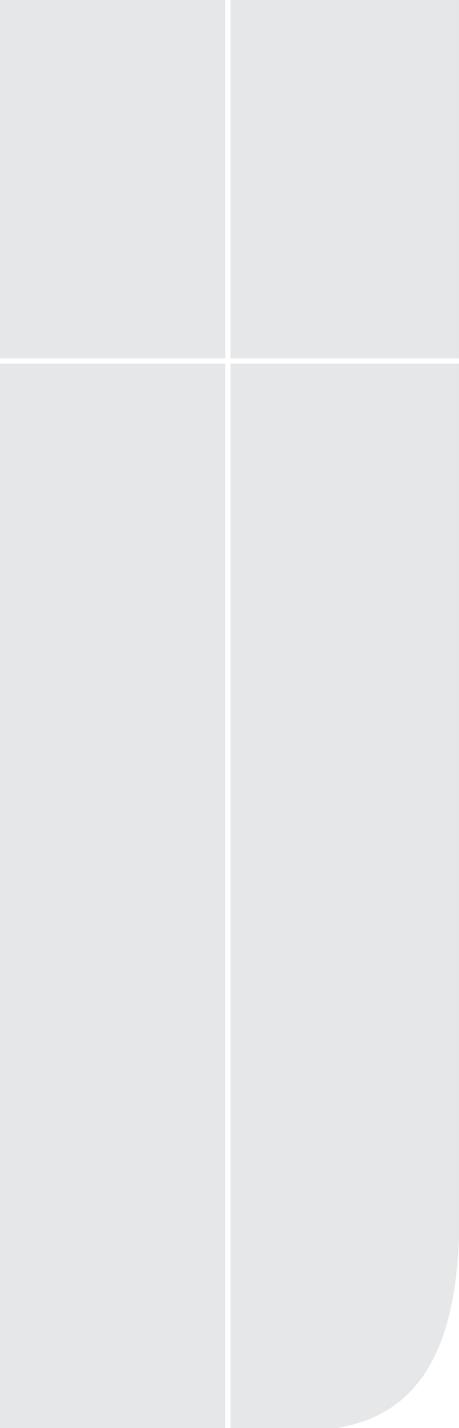
B. Porcelain try-in



Porcelain in the mouth

Prior to placing the bridge, remove the temporary plastic healing caps from the patient's mouth.

The completed bridge is checked in the mouth. Proximal and occlusal contacts should be adjusted before cementation to the anatomic transgingival abutments using MIS cement crown set.



Restorative procedure
**STANDARD
 PLATFORM**

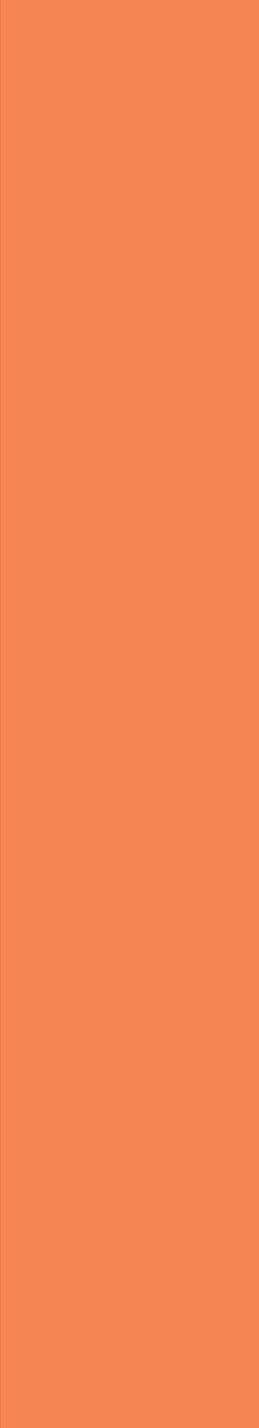
Prosthetic options

	Healing cap		Impression coping	Analog	Prosthetic options						
	Standard	Anatomic			Anatomic transgingival abutment	Cementing post	Esthetic abutment	Angulated abutment	Esthetic angulated abutment	Plastic cylinder	Gold plastic cylinder
 BIOCOM Ø3.30mm Ø3.75mm Ø4.20mm	 Ø4mm H-3,4,5,6 MH-03375 MH-04375 MH-05375 MH-06375	 Ø5.5mm H-3,4,5,6 MH-53375 MH-54375 MH-55375 MH-56375	 MD-I0375	 MD-RSM10	 MD-CPK41 MD-CPK63 MD-CPK42 MD-CPK64 MD-CPK43 MD-CPK81 MD-CPK44 MD-CPK82 MD-CPK61 MD-CPK83 MD-CPK62 MD-CPK84	 MD-MACF1	 MD-A0010 MD-P0030	 MD-AN151	 MD-A1510 MD-A2510	 MD-CPH13	 MD-GPC10
	 SEVEN Ø3.75mm Ø4.20mm			 MD-IT100	 MD-ICH40 (Anti-rotation)	 MD-IC040	 MD-MACF1	 MD-CR010	 MD-AN251	 MD-P1530 MD-P2530	 MD-CPH50
			 MD-PF375							 MD-CP013	
			 MD-IC800		 MD-S0200 MD-S0220 MD-S0222 MD-S0224	 MD-S0200 MD-S0220 MD-S0222 MD-S0224		 MD-S0200 MD-S0220		 MD-CP050	
			 MD-IT300			 MD-G0220		 MD-G0220			

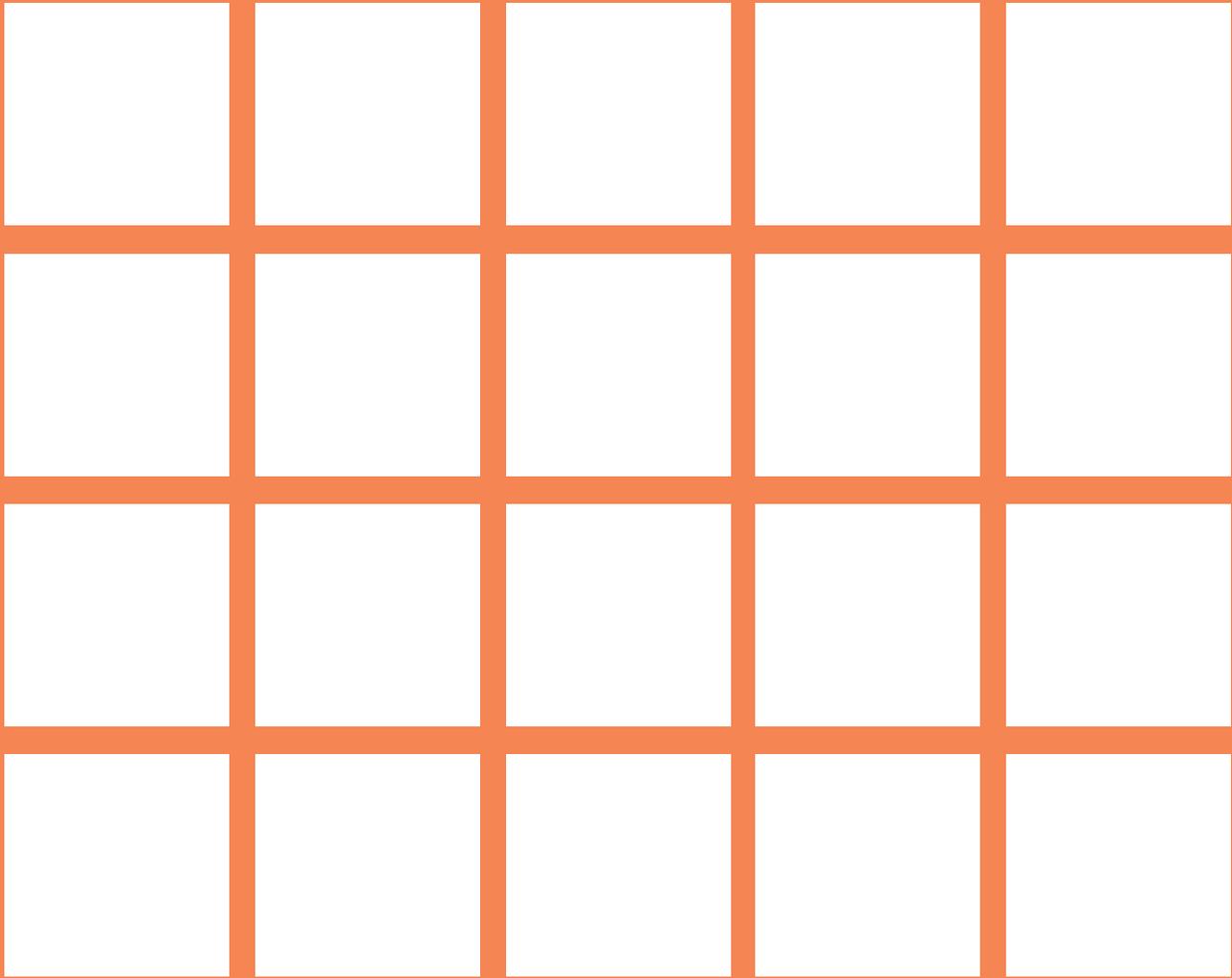
Restorative procedure
WIDE
 PLATFORM

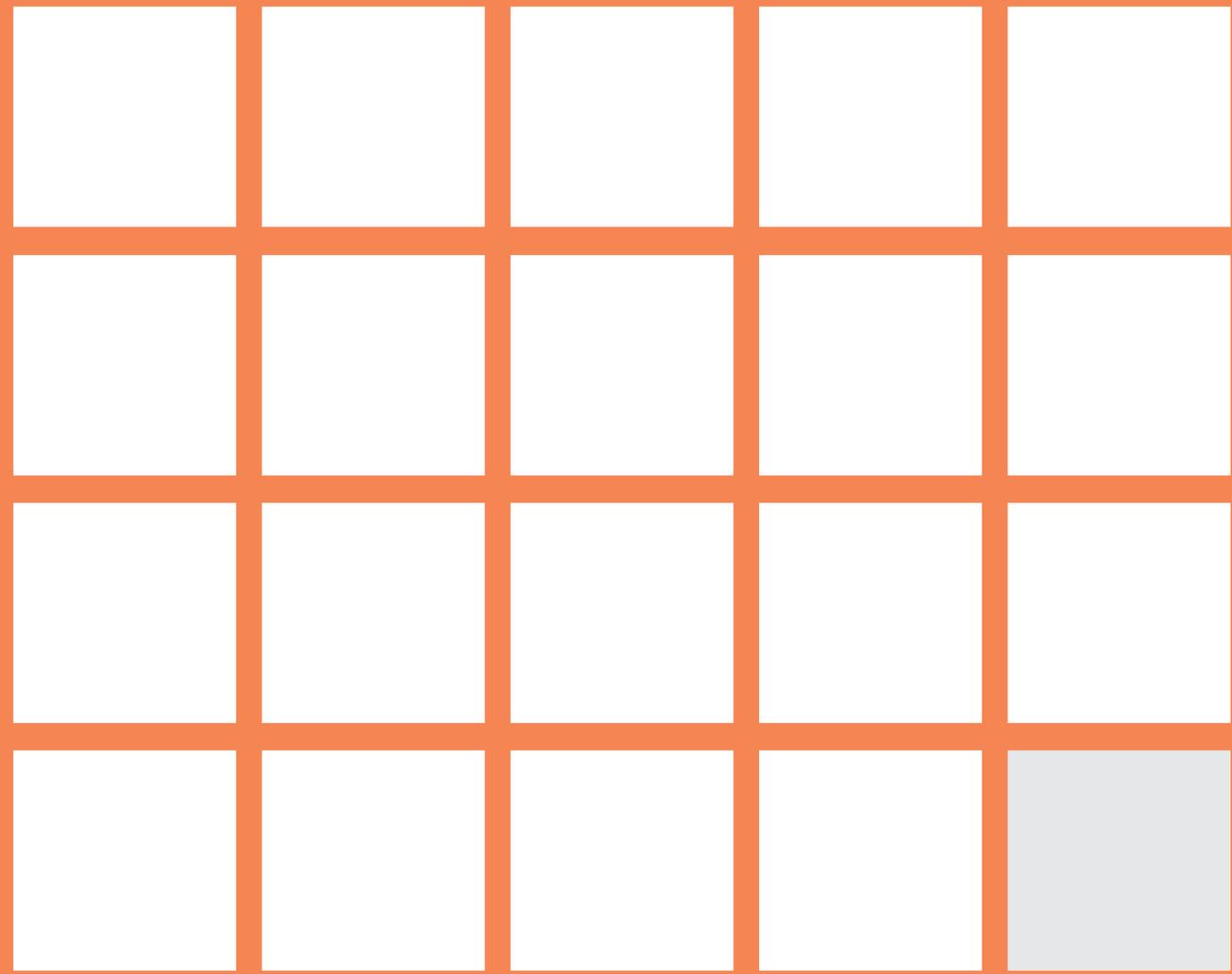
Prosthetic options

	Healing cap		Impression coping	Analog	Anatomic transgingival abutment	Cementing post	Esthetic abutment	Angulated abutment	Esthetic angulated abutment	Plastic cylinder	Gold plastic cylinder
	Standard	Anatomic									
 BIOCOM Ø5mm Ø6mm	 Ø5mm H-3,4,5 MH-W3500 MH-W4500 MH-W5500	 Ø6.30mm H-3,4,5 MH-W3630 MH-W4630 MH-W5630	 MW-I0470	 MW-RSM10	 MW-CPK41 MW-CPK63 MW-CPK42 MW-CPK64 MW-CPK43 MW-CPK81 MW-CPK44 MW-CPK82 MW-CPK61 MW-CPK83 MW-CPK62 MW-CPK84	 MW-CTP10 MW-MAC10	 MW-P0010	 MW-AN151	 MW-P1510	 MW-CPH13	 MW-GPC10
	 SEVEN Ø5mm Ø6mm			 MW-IT100		 MW-ICH40 (Anti-rotation)					 MW-CPH60
			 MW-PF550		Screw	Screw		Screw		 MW-CP013	
			 MW-IC800		 MD-S0200 MD-S0220 MD-S0222 MD-S0224	 MD-S0200 MD-S0220 MD-S0222 MD-S0224		 MD-S0200 MD-S0220		 MW-CP060	
			 MW-IT300			 MD-G0220		 MD-G0220			



FIN. END. FINAL. FINE. SON. KOHEЦ. 끝.





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The logo for MIS (Medical Implant Systems) is displayed in a stylized, lowercase font. The letters 'm', 'i', and 's' are connected, with the 'i' having a vertical stem that extends upwards. A registered trademark symbol (®) is located to the upper right of the 's'. The logo is centered on an orange rectangular background.

MIS's Quality System complies with international quality standards: ISO 13485:2003 - Quality Management System for Medical Devices, ISO 9001:2000 - Quality Management System and CE Directive for Medical Devices 93/42/EEC. MIS's products are cleared for marketing in the USA and CE approved.