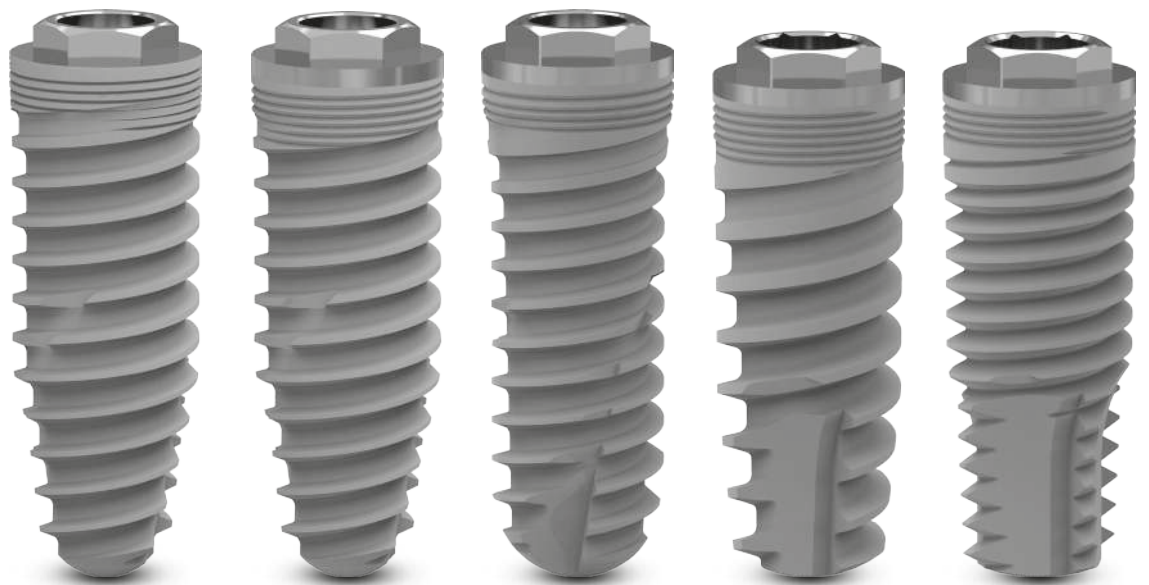


ZM4 · ZM4_{MT} · ZM1 · ZM8_N · ZM8_S

External hex connection implants



ZM4 · ZM4_{MT} · ZM1 · ZM8_N · ZM8_S

Prosthetic procedure manual

About this manual

This manual is intended to provide users of Ziacom® products with an instruction guide for the use of their products. It is not intended to describe methods or procedures for diagnosis, treatment planning or implant placement, nor to substitute or replace regulated training or professional judgement on the needs of individual patients.

The procedures described and illustrated in this manual show an ideal clinical situation for implant rehabilitation and are limited to an example of procedures with a specific platform (Regular Platform RP). This manual is not intended to cover the wide range of clinical conditions that may occur during implant treatment. The experience and judgement of the professional will prevail over the recommendations made in this or any other Ziacom® manual.

This manual describes the use of conical connection abutment in prosthetic procedures. Consult availability of abutment by platform for each type of conical connection implant.

In this manual of prosthodontic procedures, the processes are separated into two distinct types:

- 1. Clinical:** corresponds to the procedures performed in the oral cavity by the clinician. These are all those clinical procedures that precede the prosthesis preparation in the laboratory or the required intermediate tests.
- 2. Laboratory:** corresponds to the procedures performed by the prosthetist in the laboratory for the prosthesis preparation. The aim of these processes is to obtain a final product for the masticatory function rehabilitation.

RX only: Caution, Federal Law (US) restricts these devices to sale by on the order of a dentist or physician.

All instruments (surgical and prosthetic), surgical boxes and components are supplied WITHOUT STERILIZING. They must be removed from their original package for sterilisation prior to first clinical use. Consult the general cleaning, disinfection and sterilisation recommendations on our website www.ziacom.com or in this manual.



Important information

Please read carefully before using Ziacom® products

General information

This document contains basic information on the use of original Ziacom® dental implant systems, hereafter referred to as Ziacom® dental implants or simply Ziacom® products. This document has been created as quick guide for clinicians responsible for treatment, hereafter the "user", and, therefore, is neither an alternative nor a substitute for specialized training or professional clinical experience.

Ziacom® products must be used according to a suitable treatment plan and adhering strictly to the surgical and prosthetic protocols established by the manufacturer. Read the product-specific surgical and prosthetic protocols as well as the instructions for use and maintenance before using each Ziacom® product. You can find this information on our website, www.ziacom.com, or request it from your nearest authorised Ziacom® distributor.

Liability, safety and guarantee.

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The user must ensure that the Ziacom® product is appropriate for the intended procedure and end purpose. Neither these instructions for use nor the work or handling protocols for the products release the user from this obligation. Ziacom® products must be used, handled and applied by professionals with the appropriate training and qualifications required according to current legislation in each country.

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Ziacom® products are part of their own system, with their own design characteristics and work protocols, including dental implants, abutments or prosthetic components and surgical or prosthetic instruments. The use of Ziacom® products in combination with elements or components from other manufacturers could result in treatment failure, damage to tissues or bone structures, inadequate aesthetic outcomes and severe damage to the patient's health. Therefore, only original Ziacom® products should be used.

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ZM4 · ZM4MT · ZM1 · ZM8N · ZM8S |

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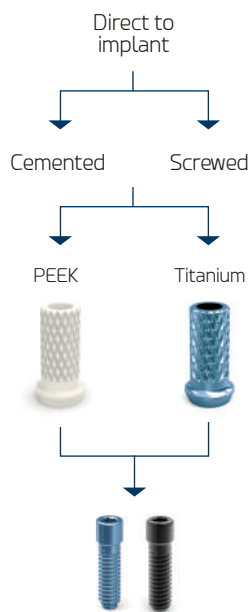
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Abutments

Prosthetic abutments classification

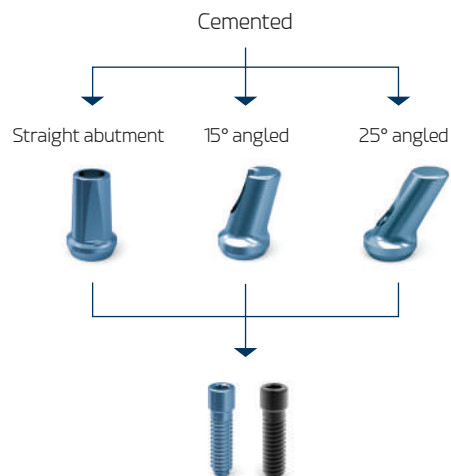
PROVISIONAL RESTORATION

- Direct to implant



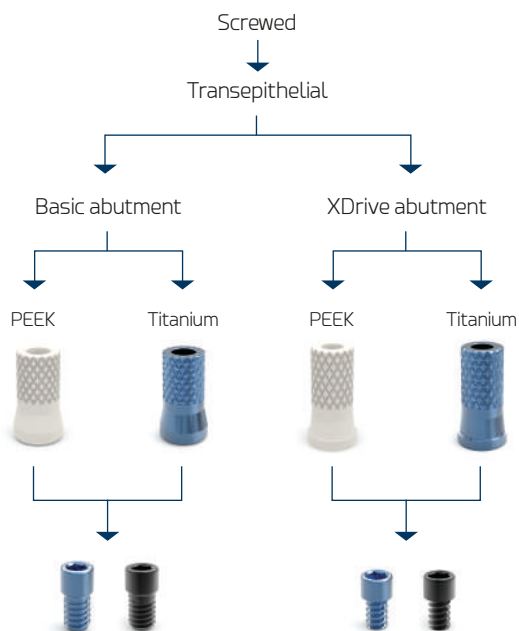
DEFINITIVE RESTORATION

- Cemented



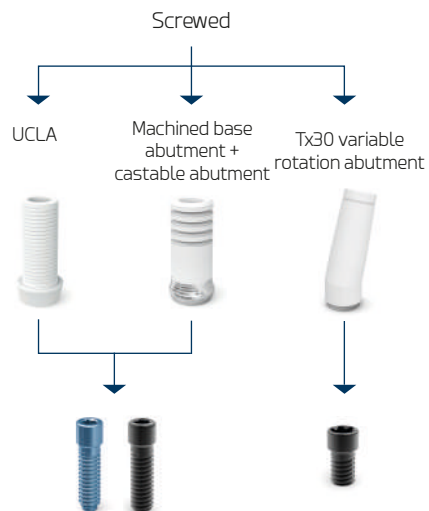
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- Screwed on transepithelial abutment



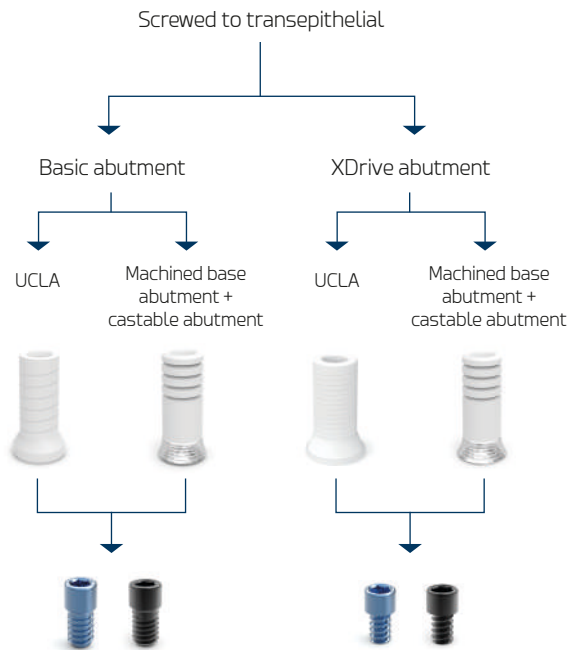
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- Screwed



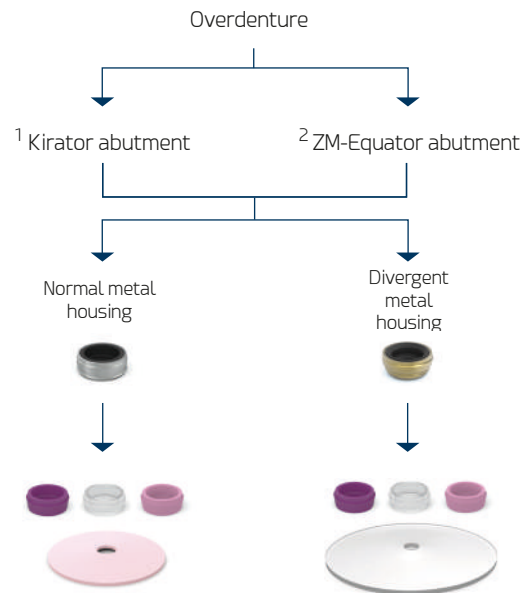
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- Screwed on transepithelial abutment



DEFINITIVE RESTORATION

- Overdentures



EXAMPLE SEQUENCE

- ¹ Kirator abutment



- ² ZM-Equator abutment



NOTE

External connection prosthetic abutments are compatible with ZM4 · ZM4 MT · ZM1 · ZM8 N · ZM8 S implants. The example prosthetic procedures outlined in this manual use the ZM4 implant and RP platform.

IMPORTANT

Check out the availability of abutments per platform for each type of external hex connection.

Abutments: impression

Open tray direct to implant using ZPlus

■ Purpose

An impression is a negative representation or imprint of the oral cavity. Taking an open-tray impression involves transferring the position of implants from the oral cavity to the working model. This process uses the direct pick-up impression coping technique. The abutment is retained within the impression material once cured and a customised tray is used for this purpose. This impression is then cast in plaster to obtain the positive reproduction or working model. This abutment can be used to make single-unit or multi-unit impressions.

NOTE:

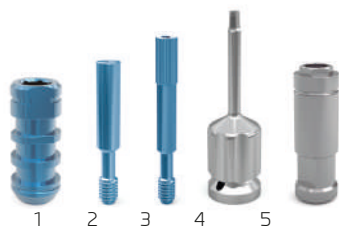
Anodised abutment in yellow, blue or magenta based on the platform in question: NP, RP or WP, respectively. Option not available for the ZM8 implant.



ZPlus

INTRODUCTION | Material required

1. ZPlus RP abutment (Ref. Z2RPEX10)
2. Impression abutment screw (Ref. LTSS3401)
3. Impression abutment screw - Quickly screw (Ref. LT3401)
4. Surgical screwdriver (Ref. LMSD)
5. Analogue (Ref. IAEX3400)



Procedure: the following illustrations show how to take a single-unit open-tray impression with ZPlus with RP platform.

STEP 1 - Clinical | Remove the healing abutment

Remove the healing abutment from the implant either by hand or using the surgical screwdriver by turning it anti-clockwise.

Check that the implant connection is clear of any surrounding tissues.



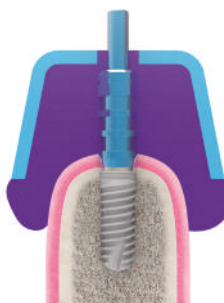
STEP 2 - Clinical | Insert the ZPlus into the implant

Insert the ZPlus into the implant, making sure it is seated properly in the connection, and tighten the impression abutment screw either by hand or using the surgical screwdriver by turning it clockwise. Apply manual torque (see torque table on page 54). Check that the impression abutment has engaged properly with the implant by taking a periapical X-ray.

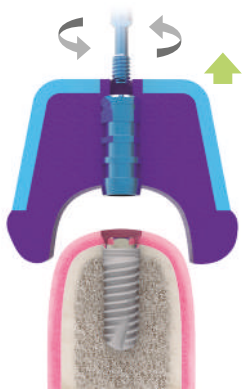


STEP 3 - Clinical | Take the impression

Select the customisable impression tray. Customise the tray by drilling a hole in the area corresponding to the implant and select a screw that protrudes from the tray. Place elastomeric impression material around the impression abutment and then fill the tray. Take the impression according to the impression material manufacturer's recommendations. Remove any excess material from the screw heads.



STEP 4 - Clinical | Remove the tray



Manually unscrew the impression abutment screw using the surgical screwdriver and remove the impression tray. Check that the quality of the impression is optimal for sending to the laboratory. The ZPlus should be retained in the impression material. Send the impression, impression abutment screw, analogue and laboratory order to the laboratory.



STEP 5 - Clinical | Replace the healing abutment



Immediately place the healing abutment back in the implant to prevent soft tissue collapse.



STEP 6 - Laboratory | Position the analogue



Position the implant analogue on the ZPlus impression abutment, making sure it is properly seated in the connection, and secure it by hand using the impression abutment screw. Check that both components are seated properly.

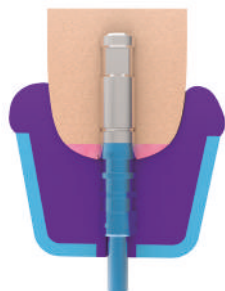


STEP 7 - Laboratory | Simulate soft tissue on the working model



Inject material of your choice around the impression abutment, to the required depth, to realistically simulate soft tissue.

STEP 8 - Laboratory | Pour the impression



Weigh, mix and pour type IV plaster (American Dental Association (ADA) Specification No. 25 with minimum expansion, high level of hardness) into the impression according to the plaster manufacturer's recommendations.

STEP 9 - Laboratory | Working model



Once the plaster has cured, remove the impression abutment screw and the tray. Check the working model against the opposing model using the bite registration.

Abutments: impression

Open tray direct to implant using impression abutment

■ Purpose

An impression is a negative representation or imprint of the oral cavity. Taking an open-tray impression involves transferring the position of implants to the working model. This process uses the direct pick-up impression coping technique. The abutment is retained within the impression material once cured and a customised tray is used for this purpose. This impression is then cast in plaster to obtain the positive reproduction or working model. This abutment can be used to make single-unit or multi-unit impressions.

The dentist should select the impression abutment that best fits the oral cavity based on each case. The dentist can therefore select either the short abutment measuring 7.80 mm or the long abutment measuring 11.80 mm.

NOTE:

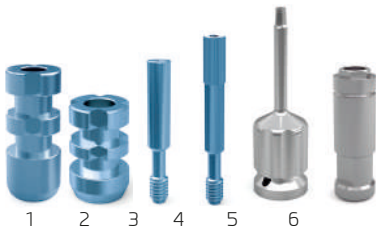
Anodised abutment in yellow, blue or magenta based on the platform in question: NP, RP or WP, respectively.



Impression abutment

INTRODUCTION | Material required

1. Long impression abutment (Ref. TCEX3400)
2. Short impression abutment (Ref. TCEX3401)
3. Impression abutment screw (Ref. LTSS3401)
4. Impression abutment screw - Quickly screw (Ref. LT3401)
5. Surgical screwdriver (Ref. LMSD)
6. Analogue (Ref. IAEX3400)



Procedure: the following illustrations show how to take an open-tray impression with a long impression abutment with RP platform.

STEP 1 - Clinical | Remove the healing abutment

Remove the healing abutment from the implant either by hand or using the surgical screwdriver by turning it anti-clockwise.

Check that the implant connection is clear of any surrounding tissues.



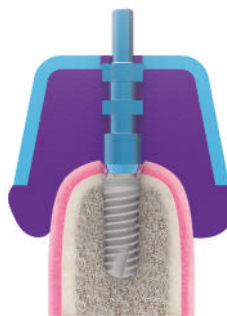
STEP 2 - Clinical | Insert the impression abutment into the implant

Insert the impression abutment into the implant, making sure it is seated properly in the connection, and tighten the impression abutment screw either by hand or using the surgical screwdriver by turning it clockwise. Apply manual torque (see torque table on page 52). Check that the impression abutment has engaged properly with the implant by taking a periapical X-ray.

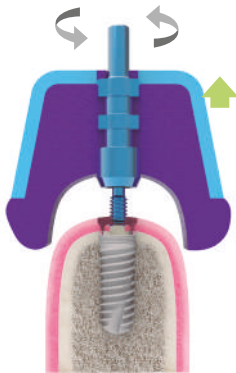


STEP 3 - Clinical | Take the impression

Select the customisable impression tray. Customise the tray by drilling a hole in the area corresponding to the implant and select a screw that protrudes from the tray. Place elastomeric impression material around the impression abutment and then fill the tray. Take the impression according to the impression material manufacturer's recommendations. Remove any excess material from the screw heads.



STEP 4 - Clinical | Remove the tray



Manually unscrew the impression abutment screw using the surgical screwdriver and remove the impression tray. Check that the quality of the impression is optimal. The impression abutment should be retained in the impression material. Send the impression, impression abutment screw, analogue and laboratory order to the laboratory.



STEP 5 - Clinical | Replace the healing abutment



Immediately place the healing abutment back in the implant to prevent soft tissue collapse.



STEP 6 - Laboratory | Position the analogue



Position the implant analogue on the impression abutment, making sure it is properly seated in the connection, and secure it by hand using the impression abutment screw. Check that both components are seated properly.

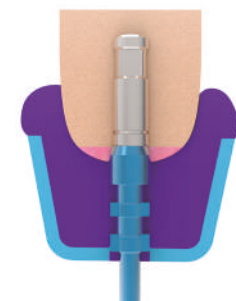


STEP 7 - Laboratory | Simulate soft tissue on the working model



Inject material of your choice around the impression abutment, to the required depth, to realistically simulate soft tissue.

STEP 8 - Laboratory | Pour the impression



Weigh, mix and pour type IV plaster (American Dental Association (ADA) Specification No. 25 with minimum expansion, high level of hardness) into the impression according to the manufacturer's recommendations.

STEP 9 - Laboratory | Working model



Once the plaster has cured, remove the impression abutment screw and the tray. Check the working model against the opposing model using the bite registration.

Abutments: impression

Closed tray with Z2Plus Snap-On impression abutment

Purpose

An impression is a negative representation or imprint of the oral cavity. Taking a closed-tray impression involves transferring the position of implants from the oral cavity to the working model. This process uses the pick-up impression coping technique. The transfer abutment is retained within the impression material once cured and a conventional tray is used. This impression is then cast in plaster to obtain the positive reproduction or working model.

Closed-tray impression with Z2Plus

The dentist will select this technique for single-unit restorations as it uses a non-rotating impression abutment.

For ZM8 N and ZM8 S implants, the Z2Plus is supplied separately and not as a mount option.



Z2Plus

INTRODUCTION | Material required

1. Z2Plus abutment
2. Clinical screw (Ref. DSEI3400)
3. Laboratory screw (Ref. LB103400)
4. Snap-On transfer abutment cap for Z2Plus (Ref. ZPU3400)
5. Analogue (Ref. IAEX3400)
6. Surgical screwdriver (Ref. LMSD)



Procedure: the following illustrations show how to take a closed-tray impression with a Z2Plus abutment with RP platform.

STEP 1 - Clinical | Remove the healing abutment



Remove the healing abutment from the implant either by hand or using the surgical screwdriver by turning it anti-clockwise.

Check that the implant connection is clear of any surrounding tissues.



STEP 2 - Clinical | Insert the Z2Plus into the implant



Identify the anti-rotational flat surface of the Z2Plus abutment and position it so it is facing the lips. Insert the impression abutment into the implant, making sure it is properly seated in the connection. Attach the abutment to the implant using the laboratory screw and tighten using the surgical screwdriver, turning it clockwise and applying manual torque (see torque table on page 52). Check that the impression abutment has engaged properly with the implant by taking a periapical X-ray.



STEP 3 - Clinical | Attach the Snap-On transfer abutment cap

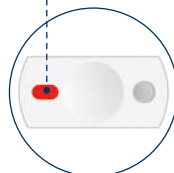
Find the oval-shaped hole in the top flange of the transfer abutment cap; this shows the position of the flat internal surface of the transfer abutment cap. Position the oval-shaped hole so it is facing the lips and attach the Snap-On transfer abutment cap to the Z2Plus abutment, pressing downwards until a click is heard, indicating that the cap has engaged.



Side view of the Snap-On transfer abutment cap; align the flat abutment surfaces



Mark showing the rotating flat surface of the abutment



STEP 4 - Clinical | Take the impression

Select the tray to be used to take the impression. Inject elastomeric impression material around the transfer abutment cap and then fill the tray. Take the impression according to the impression material manufacturer's recommended procedures.



STEP 5 - Clinical | Remove the impression tray

Remove the impression tray. The transfer abutment cap should be picked up in the impression material. Remove the laboratory screw and the abutment. Check that the quality of the impression is optimal. Then send the impression, Z2Plus abutment, laboratory screw, analogue and laboratory order to the laboratory.

STEP 6 - Clinical | Replace the healing abutment

Immediately place the healing abutment back in the implant to prevent soft tissue collapse.

STEP 7 - Laboratory | Position the analogue

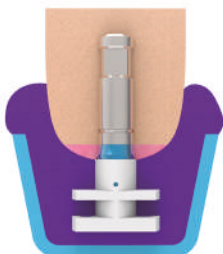
Place the Z2Plus abutment on top of the analogue, making sure it is seated properly in the connection, and tighten the laboratory screw by hand using the surgical screwdriver. Insert the abutment-analogue assembly into the transfer abutment cap retained in the impression material, making sure the anti-rotational flat surface is facing the lips. Check that both components are seated properly.

STEP 8 - Laboratory | Simulate soft tissue on the working model

Inject material of your choice around the impression abutment, to the required depth, to realistically simulate soft tissue.

STEP 9 - Laboratory | Pour the impression

Weigh, mix and pour type IV plaster (American Dental Association (ADA) Specification No. 25 with minimum expansion, high level of hardness) into the impression according to the manufacturer's recommendations.



STEP 10 - Laboratory | Working model

Once the plaster has cured, remove the clinical screw and the Z2Plus abutment and the tray. Check the working model against the opposing model using the bite registration.



Abutments: impression

Closed tray using Pick-Up

Purpose

An impression is a negative representation or imprint of the oral cavity. Taking a closed-tray impression involves transferring the position of implants from the oral cavity to the working model. This process uses the pick-up impression coping technique. The transfer abutment is retained within the impression material once cured and a conventional tray is used. This impression is then cast in plaster to obtain the positive reproduction or working model.

The dentist will select this technique for multi-unit restorations as it uses a Non-Rotatory abutment.



Pick-Up abutment

INTRODUCTION | Material required

1. Pick-Up impression abutment (Ref. PUEX3400)
2. Pick-Up transfer abutment cap (Ref. CPU3410)
3. Analogue (Ref. IAEX3400)
4. Surgical screwdriver (Ref. LMSD)



Procedure: the following illustrations show how to take a closed-tray impression using Pick-Up abutments with RP platform and Pick-Up transfer abutment caps.

STEP 1 - Clinical | Remove the healing abutment

Remove the healing abutment from the implant either by hand or using the surgical screwdriver by turning it anti-clockwise.

Check that the implant connection is clear of any surrounding tissues.



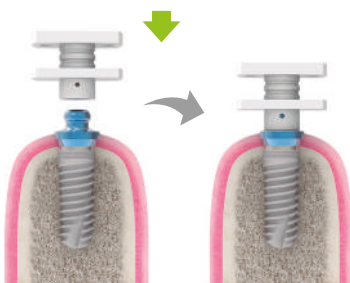
STEP 2 - Clinical | Insert the Pick-Up impression abutment into the implant

Screw the impression abutment into the implant using the surgical screwdriver, applying manual torque. Check that the impression abutment has engaged properly with the implant by taking a periapical X-ray.



STEP 3 - Clinical | Attach the Pick-Up transfer abutment cap

Position the transfer abutment cap over the abutment and press downwards until a click is heard, indicating that the cap has ROTed.



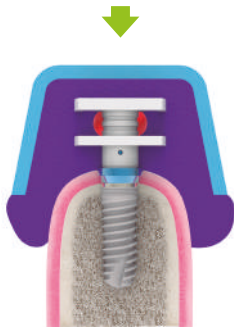
STEP 4 - Clinical | Splint the Pick-Up transfer abutment caps

Splint the impression abutments using the technique of your choice according to the instructions given by the manufacturer of the material selected for splinting.



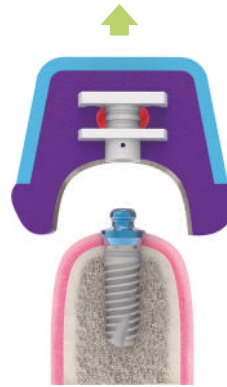
STEP 5 - Clinical | Take the impression

Select the tray to be used to take the impression. Inject elastomeric impression material of medium-high density around the transfer abutment cap and then fill the tray. Take the impression according to the manufacturer's recommended procedures.



STEP 6 - Clinical | Remove the impression tray

Remove the impression tray. The transfer abutment cap should be picked up in the impression material. Check that the quality of the impression is optimal. Send the impression, abutment, analogue and laboratory order to the laboratory.



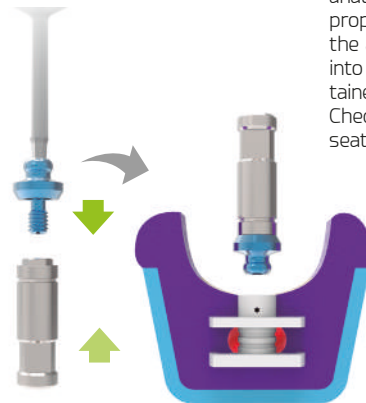
STEP 7 - Laboratory | Replace the healing abutment

Immediately place the healing abutment back in the implant to prevent soft tissue collapse.



STEP 8 - Laboratory | Position the analogue

Place the abutment on top of the analogue, making sure it is seated properly in the connection. Insert the abutment-analogue assembly into the transfer abutment cap retained in the impression material. Check that both components are seated properly.



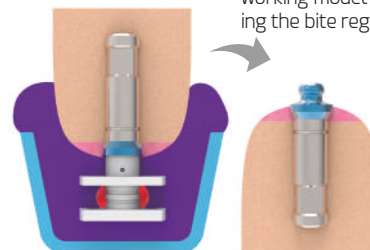
STEP 9 - Laboratory | Simulate soft tissue on the working model

Inject material around the impression abutment, to the required depth, to realistically simulate soft tissue.



STEP 10 - Laboratory | Pour the impression and working model

Weigh, mix and pour type IV plaster (American Dental Association (ADA) Specification No. 25 with minimum expansion, high level of hardness) into the impression according to the plaster manufacturer's recommendations. Once the plaster has cured, remove the tray. Check the working model against the opposing model using the bite registration.



Abutments: impression

Closed tray using ZM-Equator abutment

Purpose

An impression is a negative representation or imprint of the oral cavity. Taking a closed-tray impression involves transferring the position of implants from the oral cavity to the working model. This process uses the pick-up impression coping technique. The transfer abutment is retained within the impression material once cured and a conventional tray is used. This impression is then cast in plaster to obtain the positive reproduction or working model.

The dentist will select this technique if the retainers are to be incorporated into the prosthesis in the laboratory.



ZM-Equator

INTRODUCTION | Material required

1. ZM-Equator abutment (Ref. ZM3402)
2. ZM-Equator transfer abutment cap (Ref. TCRK3410)
3. ZM-Equator analogue (Ref. IAZM01)
4. Surgical screwdriver (Ref. LMSD)
5. Ratchet/manual screwdriver tip (Ref. LMSD1)
6. CA screwdriver tip (Ref. MESD)
7. Retainer insertion tool handle + extractor (Ref. MBEI3610)
8. Retainer insertion tool (Ref. MBEI3603)
9. Torque wrench (Ref. TORK50)



Procedure: the following illustrations show how to take a closed-tray impression with a ZM-Equator abutment with RP platform.

STEP 1 - Clinical | Remove the healing abutment

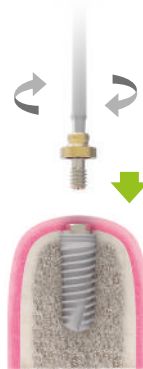
Remove the healing abutment from the implant either by hand or using the surgical screwdriver by turning it anti-clockwise.

Check that the implant connection is clear of any surrounding tissues.



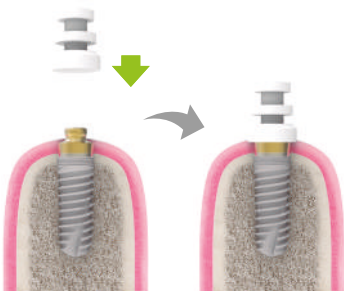
STEP 2 - Clinical | Insert the ZM-Equator abutment

Select the abutment based on the gingival height and implant platform. Screw the abutments into the implants by hand using the surgical screwdriver. Check that the abutment has engaged properly with the implant by taking a periapical X-ray.



STEP 3 - Clinical | Attach the ZM-Equator transfer abutment cap

Position the transfer abutment cap over the abutment and press downwards until a click is heard, indicating that the cap has ROTed.



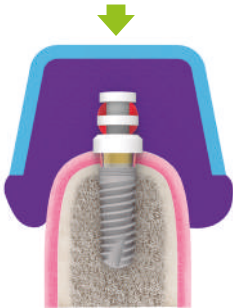
STEP 4 - Clinical | Splint the transfer abutment caps

Splint the impression abutments using the technique of your choice according to the instructions given by the manufacturer of the material selected for splinting.



STEP 5 - Clinical | Take the impression

Select the tray to be used to take the impression. Inject elastomeric impression material of medium-high density around the transfer abutment cap and then fill the tray. Take the impression according to the impression material manufacturer's recommended procedures.



STEP 6 - Clinical | Remove the impression tray

Remove the impression tray. The transfer abutment cap should be picked up in the impression material. Remove the abutment. Check that the quality of the impression is optimal. Send the impression, processing pack, analogue and laboratory order to the laboratory.



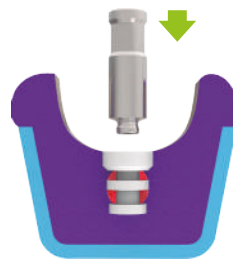
STEP 7 - Clinical | Replace the healing abutment

Remove the ZM-Equator abutment and replace the healing abutment until the prosthesis has been fabricated by the laboratory.



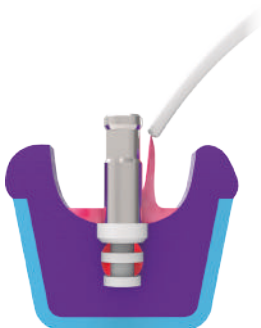
STEP 8 - Laboratory | Position the analogue

Insert the ZM-Equator analogue into the transfer abutment cap retained in the impression material and press downwards. Visually check that both components are seated properly.



STEP 9 - Laboratory | Simulate soft tissue on the working model

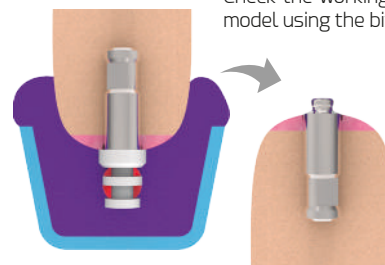
Inject material around the impression abutment, to the required depth, to realistically simulate soft tissue.



STEP 10 - Laboratory | Pour the impression and working model

Weigh, mix and pour type IV plaster (American Dental Association (ADA) Specification No. 25 with minimum expansion, high level of hardness) into the impression according to the plaster manufacturer's recommendations.

Once the plaster has cured, remove the tray. Check the working model against the opposing model using the bite registration.



Abutments: impression

Closed tray using Kirator abutment

Purpose

An impression is a negative representation or imprint of the oral cavity. Taking a closed-tray impression involves transferring the position of implants from the oral cavity to the working model. This process uses the pick-up impression coping technique. The transfer abutment is retained within the impression material once cured and a conventional tray is used. This impression is then cast in plaster to obtain the positive reproduction or working model.

The dentist will select this technique if the retainers are to be incorporated in the laboratory.



Kirator

INTRODUCTION | Material required

1. Kirator abutment (Ref. LOEX3402)
2. Kirator transfer abutment cap (Ref. TCRK3400)
3. Kirator analogue (Ref. IATORK01)
4. Surgical screwdriver (Ref. LMSD)
5. Kirator Ratchet/Manual insertion key (Ref. LOSD01)
6. Kirator CA insertion key (Ref. LOSD02)
7. Retainer insertion tool handle + extractor (Ref. MBEI3610)
8. Retainer insertion tool (Ref. MBEI3602)
9. Torque wrench (Ref. TORK50)



Procedure: the following illustrations show how to take a closed-tray impression with a Kirator abutment with RP platform.

STEP 1 - Clinical | Remove the healing abutment

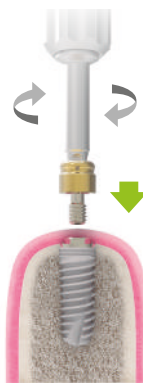


Remove the healing abutment from the implant either by hand or using the surgical screwdriver by turning it anti-clockwise.

Check that the implant connection is clear of any surrounding tissues.



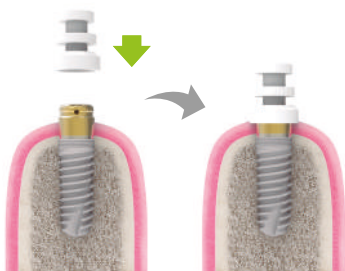
STEP 2 - Clinical | Insert the Kirator abutment



Select the abutment based on the gingival height and implant platform. Screw the abutments into the implants by hand using the Kirator insertion key. Check that the abutment has engaged properly with the implant by taking a periapical X-ray.



STEP 3 - Clinical | Attach the ZM-Equator transfer abutment cap



Position the transfer abutment cap over the Kirator abutment and press downwards until a click is heard, indicating that the cap has engaged. Visually check that both components are seated properly.

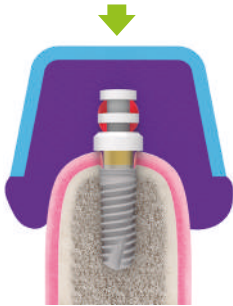
STEP 4 - Clinical | Splint the Kirator transfer abutment caps



Splint the impression abutments using the technique of your choice according to the instructions given by the manufacturer of the material selected for splinting.

STEP 5 - Clinical | Take the impression

Select the tray to be used to take the impression. Inject elastomeric impression material around the transfer abutment cap and then fill the tray. Take the impression according to the impression material manufacturer's recommended procedures.



STEP 6 - Clinical | Remove the impression tray

Remove the impression tray. The transfer abutment cap should be picked up in the impression material. Remove the abutment. Check that the quality of the impression is optimal. Send the impression, processing pack, analogue and laboratory order to the laboratory.



STEP 7 - Clinical | Replace the healing abutment

Remove the Kirator abutment and replace the healing abutment until the prosthesis has been fabricated by the laboratory.



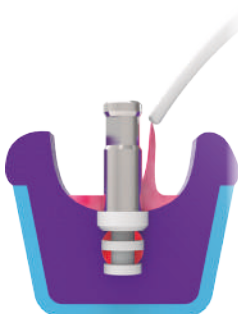
STEP 8 - Laboratory | Position the analogue

Insert the Kirator analogue into the transfer abutment cap retained in the impression material and press downwards. Visually check that both components are seated properly.



STEP 9 - Laboratory | Simulate soft tissue on the working model

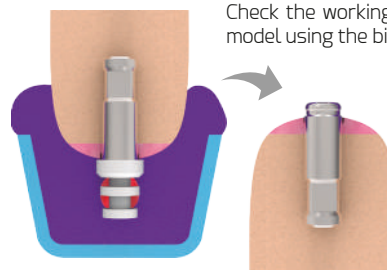
Inject material around the impression abutment, to the required depth, to realistically simulate soft tissue.



STEP 10 - Laboratory | Working model

Weigh, mix and pour type IV plaster (American Dental Association (ADA) Specification No. 25 with minimum expansion, high level of hardness) into the impression according to the plaster manufacturer's recommendations.

Once the plaster has cured, remove the tray. Check the working model against the opposing model using the bite registration.



Abutments: impression

Open tray to Basic transepithelial

■ Purpose

Basic transepithelial abutments are indicated for single-unit or multi-unit restorations, based on whether an rotating or non-rotating abutment is selected, respectively. They allow implants that are up to 36° away from being parallel to be corrected. The impression technique is applicable for either of the two types of abutments, non-rotating or rotating, and is independent of the gingival height of the abutment chosen by the dentist for the treatment.



Basic

INTRODUCTION | Material required

1. Basic abutment (Ref. BASIC3403N) ROT
2. Basic impression abutment + impression screw (Ref. BATNEX34) ROT
3. Healing abutment (Ref. BAHAX34)
4. Analogue (Ref. BAIANEX34) ROT
5. Surgical screwdriver (Ref. LMSD)



Procedure: the following illustrations show how to take an open-tray impression with a Basic abutment with RP platform for single-unit restorations.

STEP 1 - Clinical | Remove the Basic healing abutments

Remove the Basic healing abutment from the implant either by hand or using the surgical screwdriver by turning it anti-clockwise.

Check that the implant connection is clear of any surrounding tissues.



STEP 2 - Clinical | Insert the impression abutments

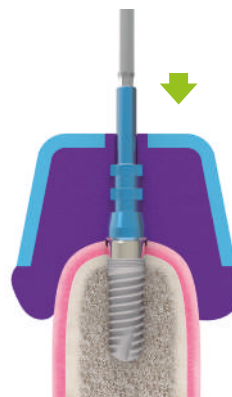
Insert the impression abutment into the Basic abutment and tighten the impression screw using the surgical screwdriver by turning clockwise. Apply manual torque. Check that the impression abutments are properly seated on the Basic abutments by taking periapical X-rays.

Caution: in the case of multi-unit restorations, splint the impression abutments using the technique of your choice according to the instructions given by the manufacturer of the material selected for splinting.

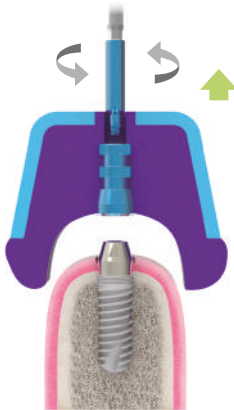


STEP 3 - Clinical | Take the impression

Select the customisable impression tray. Customise the tray by drilling a hole in the area corresponding to the implant and make sure the screw protrudes from the tray. Place elastomeric impression material around the impression abutment and then fill the tray. Take the impression according to the manufacturer's recommendations. Remove any excess material from the screw heads.



STEP 4 - Clinical | Remove the impression tray



Manually unscrew the impression abutment screw using the surgical screwdriver and remove the impression tray. Check that the quality of the impression is optimal for sending to the laboratory. The impression abutments should be retained in the impression material. Send the impression, impression abutment screws, analogues and laboratory order to the laboratory.

STEP 5 - Clinical | Replace the Basic healing abutments



Immediately place the Basic healing abutment back in the abutments to prevent soft tissue collapse.



STEP 6 - Laboratory | Position the Basic analogues



Position the Basic analogue on the impression abutment, making sure it is properly seated, and secure it by hand using the impression abutment screw and the surgical screwdriver. Check that both components are seated properly.

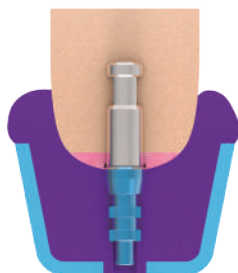


STEP 7 - Laboratory | Simulate soft tissue on the working model



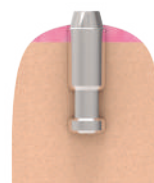
Inject material around the impression abutment, to the required depth, to realistically simulate soft tissue.

STEP 8 - Laboratory | Pour the impression



Weigh, mix and pour type IV plaster (American Dental Association (ADA) Specification No. 25 with minimum expansion, high level of hardness) into the impression according to the plaster manufacturer's recommendations.

STEP 9 - Laboratory | Working model



Once the plaster has cured, remove the impression abutment screws and the tray. Check the working model against the opposing model using the bite registration.

Abutments: impression

Open tray to XDrive transepithelial

■ Purpose

An impression is a negative representation or imprint of the oral cavity. Taking an open-tray impression involves transferring the position of implants from the oral cavity to the working model. This process uses the direct pick-up impression coping technique. The abutment is retained within the impression material once cured and a customised tray is used for this purpose. This impression is then cast in plaster to obtain the positive reproduction or working model.

Open-tray impression with XDrive transepithelial abutments

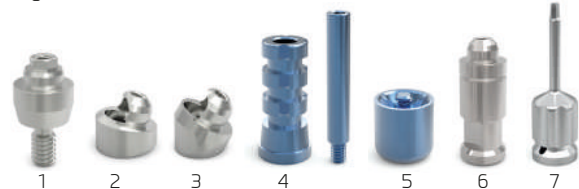
XDrive transepithelial abutments are indicated for multi-unit restorations. They allow angled implants to be corrected. The impression technique can be used with both straight and angled abutments and is independent of the gingival height of the abutment chosen by the dentist for the treatment.



XDrive

INTRODUCTION | Material required

1. XDrive straight abutment (Ref. XST10Z30)
2. XDrive 17° angled abutment (Ref. XA210Z17)
3. XDrive 30° angled abutment (Ref. XA310Z30)
4. XDrive impression abutment + impression screw (Ref. XT103400)
5. Healing abutment (Ref. XH103400)
6. Analogue (Ref. XIA103400)
7. Surgical screwdriver (Ref. LMSD)

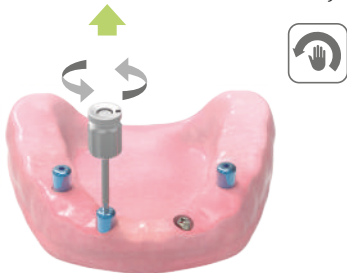


Procedure: the following illustrations show how to take an open-tray impression with XDrive abutments with RP platform for multi-unit restorations.

STEP 1 - Clinical | Remove the XDrive healing abutments

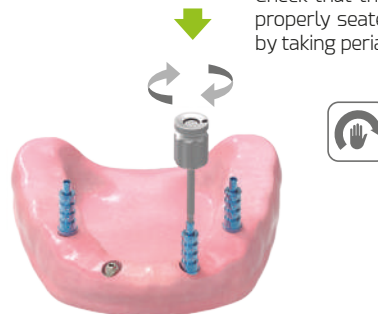
Remove the XDrive healing abutments from the implants either by hand or using the surgical screwdriver by turning them anti-clockwise.

Check that the abutment connection is clear of any surrounding tissues.



STEP 2 - Clinical | Insert the impression abutments

Insert the impression abutments into the XDrive abutments and tighten the impression screw using the surgical screwdriver by turning clockwise. Apply manual torque. Check that the impression abutments are properly seated on the XDrive abutments by taking periapical X-rays.



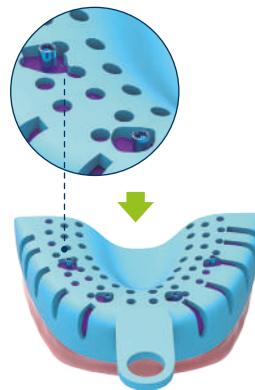
STEP 3 - Clinical | Splint the abutments

Splint the impression abutments using the technique of your choice according to the instructions given by the manufacturer of the material selected for splinting.

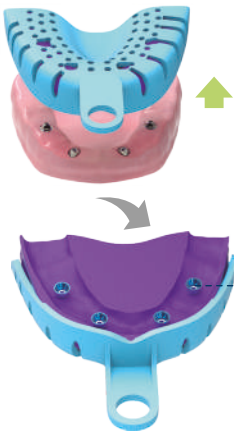


STEP 4 - Clinical | Take the impression

Select the customisable impression tray. Customise the tray by drilling a hole in the area corresponding to the implant and make sure the screw protrudes from the tray. Place elastomeric impression material around the impression abutments and then fill the tray. Take the impression according to the manufacturer's recommendations. Remove any excess material from the screw heads.

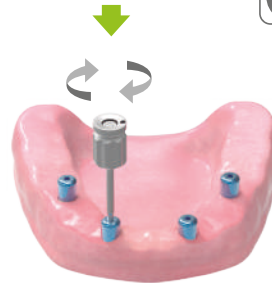


STEP 5 - Clinical | Remove the impression tray



Manually unscrew the impression abutment screws using the surgical screwdriver and remove the impression tray. Check that the quality of the impression is optimal for sending to the laboratory. The impression abutments should be retained in the impression material. Send the impression, impression abutment screws, analogues and laboratory order to the laboratory.

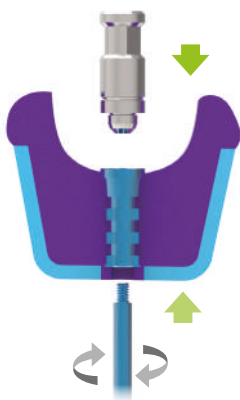
STEP 6 - Clinical | Replace the XDrive healing abutments



Immediately place the healing abutments back in the implants to prevent soft tissue collapse.



STEP 7 - Laboratory | Position the XDrive analogue



Position the XDrive analogues on the impression abutments, making sure they are properly seated, and secure by hand using the impression abutment screws and the surgical screwdriver. Check that both components are seated properly.

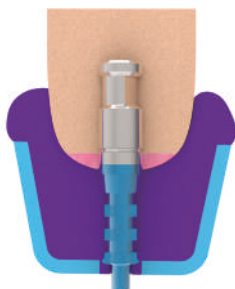


STEP 8 - Laboratory | Simulate soft tissue on the working model



Inject material of your choice around the impression abutment, to the required depth, to realistically simulate soft tissue.

STEP 9 - Laboratory | Pour the impression



Weigh, mix and pour type IV plaster (American Dental Association (ADA) Specification No. 25 with minimum expansion, high level of hardness) into the impression according to the plaster manufacturer's recommendations.

STEP 10 - Laboratory | Working model



Once the plaster has cured, remove the impression abutment screws and the tray. Check the working model against the opposing model using the bite registration.

Abutments: provisional restorations

Cemented using provisional abutments

Purpose

Provisional abutments are used to fabricate single-unit or multi-unit Provisional restorations and are available in PEEK and titanium. This option allows the dentist to shape the soft tissue and contour the emergence profile. PEEK abutments are indicated for aesthetic areas and immediate loading.



Provisional

INTRODUCTION | Material required

1. PEEK Provisional abutment (Ref. RUEXP3410) ROT
2. PEEK Provisional abutment (Ref. NUEXP3410) NO-ROT
3. Titanium Provisional abutment (Ref. RUEXT3410) ROT
4. Titanium Provisional abutment (Ref. NUEXT3410) NO-ROT
5. Clinical screw (Ref. DSEI3400)
6. Kiran clinical screw (Ref. DSEI3410)
7. Laboratory screw (Ref. LB103400)
8. Analogue (Ref. IAEX3400)
9. Surgical screwdriver (Ref. LMSD)



Procedure: the following illustrations show an example of a single-unit cement-retained Provisional restoration using a PEEK abutment with RP platform.

STEP 1 - Clinical | Remove the healing abutment



Remove the healing abutment from the implant either by hand or using the surgical screwdriver by turning it anti-clockwise.

Check that the abutment connection is clear of any surrounding tissues.



STEP 2 - Clinical | Insert the Provisional abutment



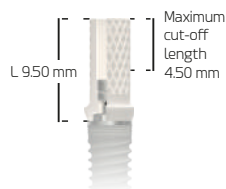
Insert the Provisional abutment into the implant, checking that the two components are properly seated. Insert the laboratory screw using the surgical screwdriver and turn it clockwise. Apply manual torque. Mark the abutment height according to the available interocclusal space and check the gingival contour.



STEP 3 - Clinical | Prepare the abutment



Remove the abutment from the implant and replace the healing abutment to prevent soft tissue collapse. Attach the abutment to an analogue with the right platform. Secure the abutment to the analogue using a laboratory screw and the surgical screwdriver. Prepare the abutment according to the marks made during the previous step.



STEP 4 - Clinical | Insert the modified Provisional abutment



Insert the Provisional abutment into the implant, checking that it fits properly. Insert the clinical screw using the surgical screwdriver and turn it clockwise. Tighten the clinical screw by hand or using the surgical screwdriver and apply 30 Ncm of torque using a screwdriver tip.



Caution:
Do not exceed the set torque.

STEP 5 - Clinical | Fill the screw access hole



Place a resilient material in the top of the screw access hole and then seal using filling material. This procedure will make it easier to access the screw in the future. Prior to fabricating the restoration, apply a separator to the abutment.

STEP 6 - Clinical | Make the crown and fill



Make the Provisional crown using the method of your choice. Mix the filling material and place it in the crown; position the crown on the Provisional abutment.

STEP 7 - Clinical | Remove excess material, adjust fit and cement



Remove any excess filling material from the crown and polish. Place the crown on the abutment to check occlusion, fit and gingival contour.

Make any necessary modifications and polish again. Remove all traces of previously applied separator from the abutment. Cement the crown according to the cement manufacturer's recommendations.

Abutments: provisional restorations

Screwed using provisional abutments

Purpose

a) Intraoral cementation procedure

Provisional abutments are used to fabricate single-unit or multi-unit Provisional restorations and are available in PEEK and titanium. This option allows the dentist to shape the soft tissue and contour the emergence profile. PEEK abutments are indicated for aesthetic areas and immediate loading.



Provisional

INTRODUCTION | Material required

1. PEEK Provisional abutment (Ref. RUEXP3410) ROT 8.
2. PEEK Provisional abutment (Ref. NUEXP3410) NO-ROT
3. Titanium Provisional abutment (Ref. RUEXT3410) ROT
4. Titanium Provisional abutment (Ref. NUEXT3410) NO-ROT
5. Laboratory screw (Ref. LB103400)
6. Clinical screw (Ref. DSEI3400)
7. Kiran clinical screw (Ref. DSEI3410)
8. Impression abutment screw (Ref. LTSS3401)
9. Impression abutment screw - Quickly ROT (Ref. LT3401)
10. Analogue (Ref. IAEX3400)
11. Surgical screwdriver (Ref. LMSD)



Procedure: the following illustrations show an example of a single-unit screw-retained Provisional restoration using a titanium abutment with RP platform.

STEP 1 - Clinical | Remove the healing abutment

Remove the healing abutment from the implant either by hand or using the surgical screwdriver by turning it anti-clockwise.

Check that the abutment connection is clear of any surrounding tissues.



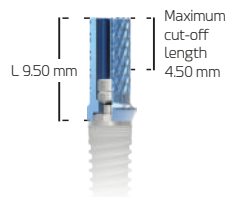
STEP 2 - Clinical | Insert the Provisional abutment

Insert the Provisional abutment into the implant, checking that the two components are properly seated. Insert the laboratory screw using the surgical screwdriver and turn it clockwise. Apply manual torque. Mark the abutment height according to the available interocclusal space and check the gingival contour.



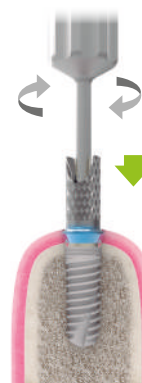
STEP 3 - Clinical | Prepare the abutment

Remove the abutment from the implant and replace the healing abutment to prevent soft tissue collapse. Attach the abutment to an analogue with the appropriate platform using a laboratory screw and surgical screwdriver. Prepare the abutment according to the marks during the previous step.



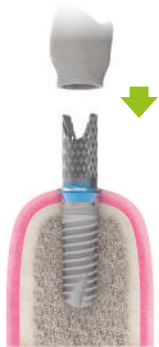
STEP 4 - Clinical | Insert the modified Provisional abutment

Insert the Provisional abutment into the implant, checking that it fits properly, and tighten the laboratory screw by hand or using the surgical screwdriver. Apply manual torque.



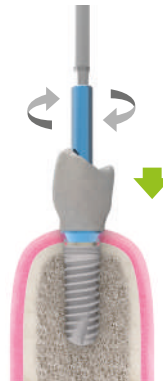
STEP 5 - Clinical | Make the crown and modify

Make the Provisional crown using the method of your choice and modify according to the patient's needs.



STEP 6 - Clinical | Insert impression abutment screw and drill the crown

Remove the laboratory screw. Replace with the impression abutment screw and apply manual torque. Drill the top of the crown to allow the screw to pass through.



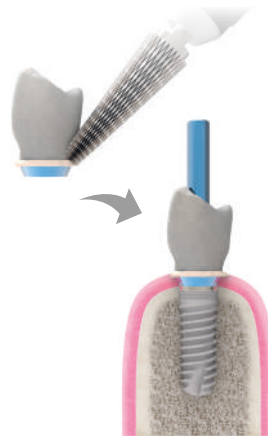
STEP 7 - Clinical | Fill the crown and cement

Mix the filling material, fill the crown and place the crown on the Provisional abutment. Once the filling material has cured, remove the impression abutment screw and the crown.



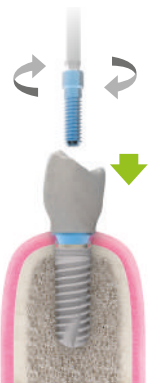
STEP 8 - Clinical | Remove excess material, adjust fit and cement

Remove any excess filling material from the crown and polish. Place the crown on the abutment to check occlusion, fit and gingival contour. Make any necessary modifications and polish again. Cement the crown according to the manufacturer's recommendations.



STEP 9 - Clinical | Screw the restoration to the implant

Position the abutment-restoration assembly on the implant. Insert the clinical screw using the surgical screwdriver and tighten by hand. Apply 30 Ncm of torque using a contra-angle screwdriver tip or torque wrench (see torque table on page 52).



Caution:
Do not exceed the set torque.

Abutments: provisional restorations

Screwed using provisional abutments

Purpose

b) Extraoral cementation procedure

Provisional abutments are used to fabricate single-unit or multi-unit Provisional restorations and are available in PEEK and titanium. This option allows the dentist to shape the soft tissue and contour the emergence profile. PEEK abutments are indicated for aesthetic areas and immediate loading.



Provisional

INTRODUCTION | Material required

1. PEEK Provisional abutment (Ref. RUEXP3410) ROT 8.
2. PEEK Provisional abutment (Ref. NUEXP3410) NO-ROT LTSS3401
3. Titanium Provisional abutment (Ref. RUEXT3410)
4. Titanium Provisional abutment (Ref. NUEXT3410) NO-ROT
5. Laboratory screw (Ref. LB103400)
6. Clinical screw (Ref. DSEI3400)
7. Kiran clinical screw (Ref. DSEI3410)
8. Impression abutment screw (Ref. LTSS3401)
9. Impression abutment screw - Quickly ROT (Ref. LT3401)
10. Analogue (Ref. IAEX3400)
11. Surgical screwdriver (Ref. LMSD)



Procedure: the following illustrations show an example of a single-unit screw-retained Provisional restoration using a titanium abutment with RP platform.

STEP 1 - Clinical | Remove the healing abutment



Remove the healing abutment from the implant either by hand or using the surgical screwdriver by turning it anti-clockwise.

Check that the abutment connection is clear of any surrounding tissues.



STEP 2 - Clinical | Insert the Provisional abutment



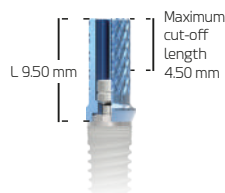
Insert the Provisional abutment into the implant, checking that the two components are properly seated. Insert the laboratory screw using the surgical screwdriver and turn it clockwise. Apply manual torque. Mark the abutment height according to the available interocclusal space and check the gingival contour.



STEP 3 - Clinical | Prepare the abutment



Remove the abutment from the implant and replace the healing abutment to prevent soft tissue collapse. Attach the abutment to an analogue with the appropriate platform using a laboratory screw and surgical screwdriver. Prepare the abutment according to the marks made during the previous step.

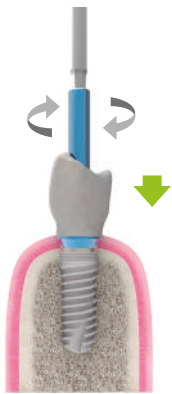


STEP 4 - Clinical | Make the crown and modify



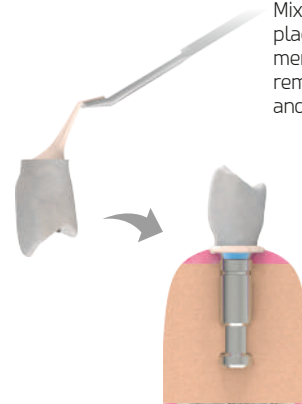
Make the Provisional crown using the method of your choice and modify according to the patient's needs.

STEP 5 - Clinical | Insert impression abutment screw and drill the crown



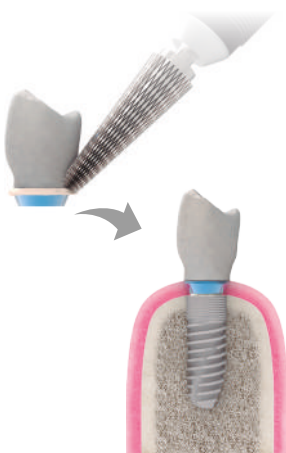
Remove the clinical screw. Replace with the impression abutment screw and apply manual torque. Drill the top of the crown to allow the screw to pass through.

STEP 6 - Clinical | Fill the crown and cement



Mix the filling material, fill the crown and place the crown on the Provisional abutment. Once the filling material has cured, remove the impression abutment screw and the crown.

STEP 7 - Clinical | Remove excess material, adjust fit and cement



Remove any excess filling material from the crown and polish. Place the crown on the abutment to check occlusion, fit and gingival contour. Make any necessary modifications and polish again. Cement the crown according to the manufacturer's recommendations.

STEP 7 - Clinical | Screw the restoration to the implant



Position the abutment-restoration assembly on the implant. Tighten the clinical screw by hand or using the surgical screwdriver and apply 30 Ncm of torque using a screwdriver tip (see torque table on page 52).



Caution:
Do not exceed the set torque.

Abutments: provisional restorations

Screwed on Basic transepithelials

Purpose

Basic transepithelial abutments are indicated for single-unit or multi-unit restorations, based on whether an rotating or non-rotating abutment is selected, respectively. They allow implants that are up to 36° away from being parallel to be corrected. PEEK or titanium provisional abutments allow the fabrication of immediate-loading or delayed-loading screw-retained provisional prostheses.



Basic

INTRODUCTION | Material required

1. Basic abutment (Ref. BASIC3403) ROT
2. PEEK Basic Provisional abutment (Ref. BARUP34) ROT
3. Titanium Basic Provisional abutment (Ref. BARUT10) ROT
4. Basic clinical screw (Ref. BDSEI3400)
5. Kiran Basic clinical screw (Ref. BDSEI3410)
6. Basic laboratory screw (Ref. BDSEI3401)
7. Surgical screwdriver (Ref. LMSD)
8. Basic insertion key (Ref. MABA100)
9. Screwdriver handle (Ref. MADW10)
10. Torque wrench (Ref. TORK50)



Procedure: the following illustrations show an example of a multi-unit screw-retained Provisional restoration using a PEEK abutment on a Basic transepithelial abutment with RP platform.

STEP 1 - Clinical | Select Basic abutments

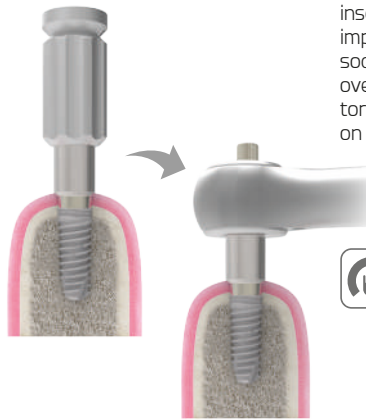


Identify the implant platform and determine the gingival height of the Basic abutments required. Select the type of abutment to be used: non-rotating or rotating.

Place the insertion key in the straight abutment and adjust using the posterior screw.



STEP 2 - Clinical | Place the Basic abutments on the implant



Screw the straight abutment-insertion key assembly into the implant by hand using the adapter socket. Place the torque wrench over the insertion key and apply torque at 30 Ncm (see torque table on page 52).



Caution:
Do not exceed the set torque.

STEP 3 - Clinical | Attach Basic Provisional abutments



Place the Provisional abutment to be used on the Basic abutment, making sure the Provisional abutment and the abutment are seated properly, and secure using a Basic laboratory screw and the surgical screwdriver by turning the screw clockwise. Apply manual torque.



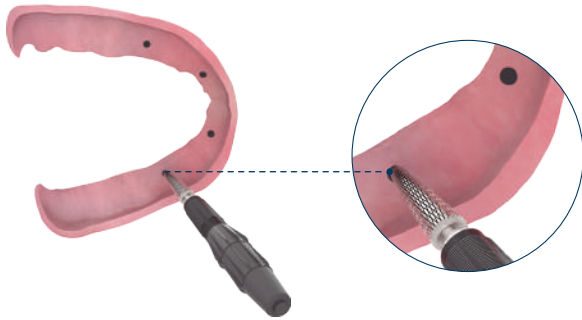
STEP 4 - Clinical | Transfer the position of the abutments to the prosthesis



Mark the top of the Provisional abutments using the technique of your choice (suitable marker, articulating paper, etc.). Place the prosthesis in the oral cavity and press on the cylinders to transfer the marks. Remove the prosthesis. Check that the marks are visible. Repeat the procedure if necessary.

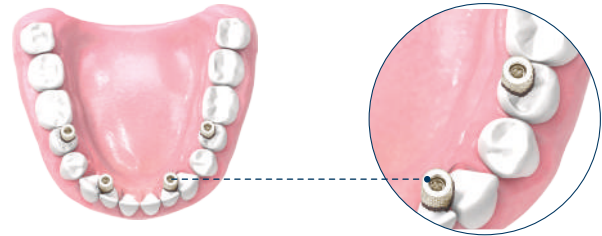
STEP 5 - Clinical | Drill holes in the prosthesis

Use an acrylic or laboratory bur to drill holes in the material at the marked points. Drill through holes at the marks.



STEP 6 - Clinical | Check the fit of the prosthesis

Place the prosthesis back in the oral cavity. Check that the drilled holes fit over the Provisional abutments and that there is room around the abutments. Check that the prosthesis is properly seated on the alveolar ridge. Make any necessary modifications.



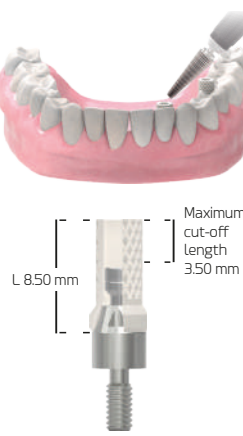
STEP 7 - Clinical | Secure the Provisional abutments to the prosthesis

Seal the screw access hole in the abutments using the material of your choice to prevent the filling material from flowing into the abutments. Use the filling material to secure the Provisional abutments according to the manufacturer's recommendations.



STEP 8 - Clinical | Remove prosthesis and perform final fitting

Remove laboratory screws using the surgical screwdriver. Remove the prosthesis. Check that the abutments are secured to the prosthesis properly. Perform soft reline, if necessary. Reduce the height of the Provisional abutments until they are flush with the occlusal side of the prosthesis, avoiding overheating. Make any final modifications, check occlusion and polish.



STEP 9 - Clinical | Place the prosthesis back in the oral cavity

Place the prosthesis back on the transepithelial abutments and check the fit. Insert the clinical screw using the surgical screwdriver and tighten by hand. Apply 25 Ncm of torque using a contra-angle screwdriver tip or torque wrench (see torque table on page 52).



Important note:
Do not exceed 25 Ncm to avoid breaking the screw.



Abutments: provisional restorations

Screwed on XDrive transepithelials

Purpose

XDrive transepithelial abutments are intermediate abutments that are indicated for multi implant and/or angled implant restorations.

The restoration technique can be used with both straight and angled abutments and is independent of the gingival height chosen for the abutment by the dentist for the treatment.

PEEK or titanium Provisional abutments allow the fabrication of immediate-loading or delayed-loading screw-retained Provisional prostheses.



XDrive

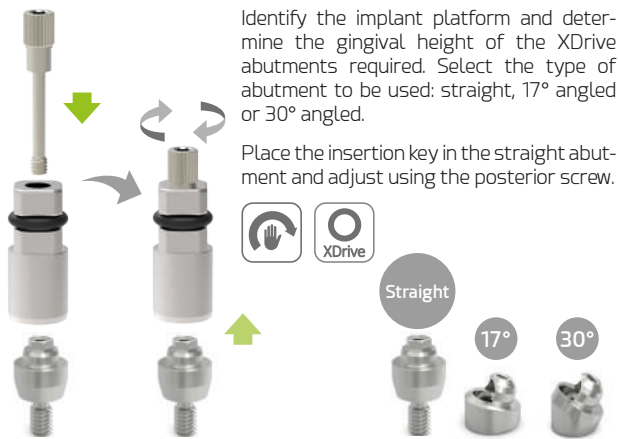
INTRODUCTION | Material required

1. XDrive straight abutment (Ref. XST103430)
2. XDrive 17° angled abutment (Ref. XA3103417)
3. XDrive 30° angled abutment (Ref. XA3103430)
4. Titanium XDrive Provisional abutment (Ref. XST3410)
5. PEEK XDrive Provisional abutment (Ref. XSP3410)
6. XDrive clinical screw (Ref. XDS103410)
7. Kiran XDrive clinical screw (Ref. XDS103411)
8. Surgical screwdriver (Ref. LMSD)
9. CA screwdriver tip (Ref. MESD)
10. Screwdriver tip (Ref. LMSD1)
11. XDrive insertion key (Ref. MABA200)
12. Screwdriver handle (Ref. MADW10)
13. Torque wrench (Ref. TORK50)

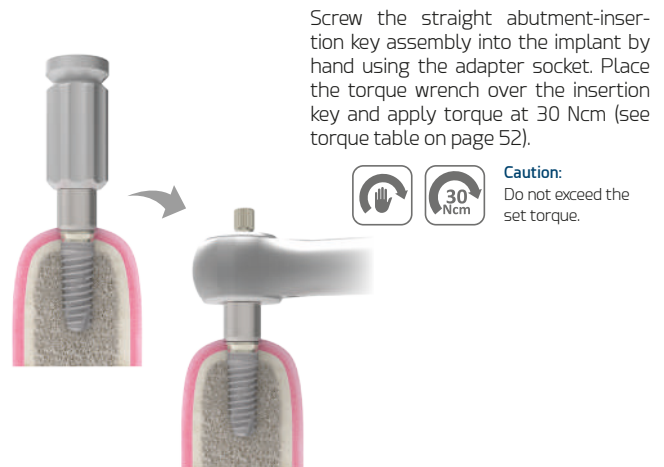


Procedure: the following illustrations show an example of a multi-unit screw-retained Provisional restoration using a titanium abutment on an XDrive transepithelial abutment with RP platform.

STEP 1 - Clinical | Select and place the XDrive abutments on the implant



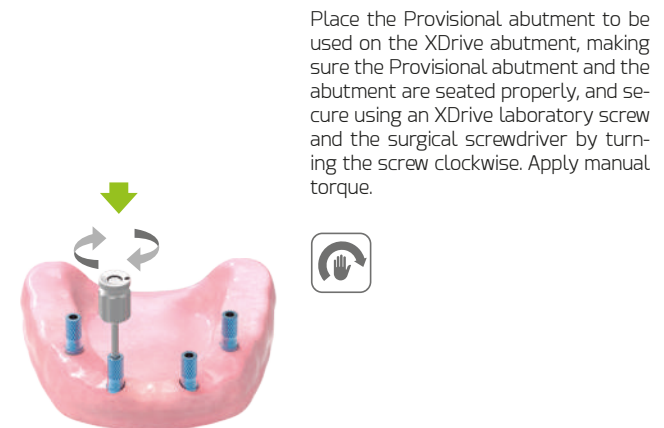
STEP 2 A - Clinical | Straight abutments



STEP 2 B - Clinical | Angled abutments



STEP 3 - Clinical | Attach the XDrive abutments

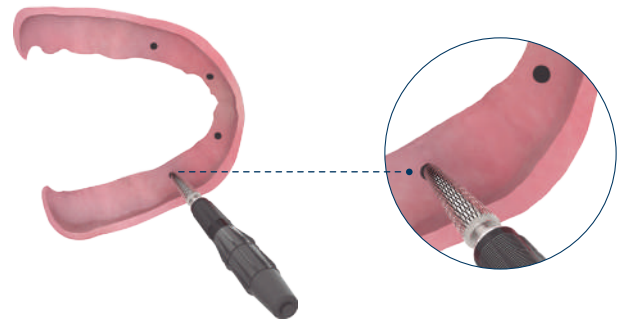


STEP 4 - Clinical | Transfer the position of the abutments to the prosthesis



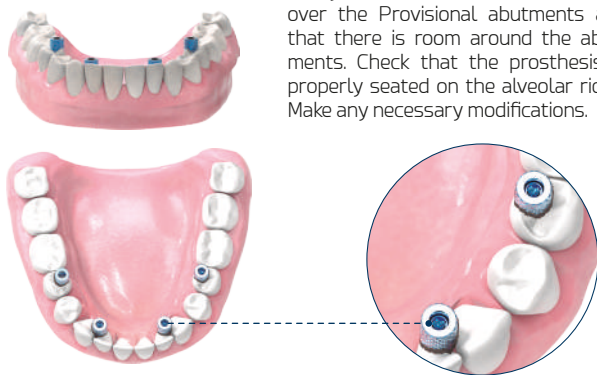
Mark the top of the abutments using the technique of your choice (suitable marker, articulating paper, etc.). Place the prosthesis in the oral cavity and press on the cylinders to transfer the marks. Remove the prosthesis. Check that the marks are visible. Repeat the procedure if necessary.

STEP 5 - Clinical | Drill holes in the prosthesis



Use an acrylic or laboratory bur to drill holes in the material at the marked points. Drill through holes at the marks.

STEP 6 - Clinical | Check the fit of the prosthesis



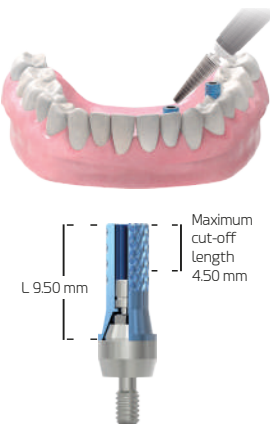
Place the prosthesis back in the oral cavity. Check that the drilled holes fit over the Provisional abutments and that there is room around the abutments. Check that the prosthesis is properly seated on the alveolar ridge. Make any necessary modifications.

STEP 7 - Clinical | Secure the Provisional abutments to the prosthesis



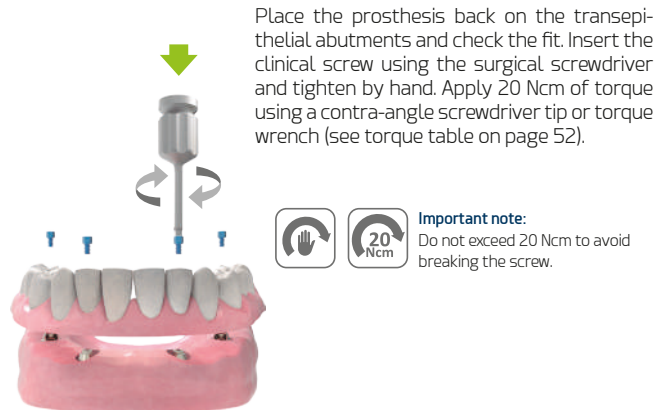
Seal the screw access hole in the abutments using the material of your choice to prevent the filling material from flowing into the abutments. Use the filling material to secure the Provisional abutments according to the manufacturer's recommendations.

STEP 8 - Clinical | Remove prosthesis and perform final fitting



Remove laboratory screws using the surgical screwdriver. Remove the prosthesis. Check that the abutments are secured to the prosthesis properly. Perform soft reline, if necessary. Reduce the height of the Provisional abutments until they are flush with the occlusal side of the prosthesis, avoiding overheating the abutments. Make any final modifications, check occlusion and polish.

STEP 9 - Clinical | Place the prosthesis back in the oral cavity



Place the prosthesis back on the transepithelial abutments and check the fit. Insert the clinical screw using the surgical screwdriver and tighten by hand. Apply 20 Ncm of torque using a contra-angle screwdriver tip or torque wrench (see torque table on page 52).

Important note:
Do not exceed 20 Ncm to avoid breaking the screw.

Abutments: definitive restorations

On abutments direct to implant

Purpose

Cementable abutments are used for single-unit or multi-unit restorations with intraoral cementation. The restoration is fabricated in the laboratory using the method selected by the dentist and the abutment is then attached to the implant using the clinical screw. The restoration is then finally cemented inside the oral cavity.



Straight Abutment

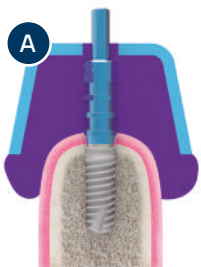
INTRODUCTION | Material required

1. Straight abutment (Ref. STEX3415)
2. 15° angled abutment (Ref. A1EX3415)
3. 25° angled abutment (Ref. A1EX3425)
4. Clinical screw (Ref. DSEI3400)
5. Kiran clinical screw (Ref. DSEI3410)
6. Laboratory screw (Ref. LB103400)
7. Surgical screwdriver (Ref. LMSD)
8. Screwdriver tip (Ref. LMSD1)
9. Torque wrench (Ref. TORK50)



Procedure: the following illustrations show an example of a single-unit cement-retained Definitive restoration using a direct-to-implant straight abutment with RP platform.

STEP 1 - Clinical | Take the impression



Take an impression of the implant using the method of your choice (open tray (option A) or closed tray (option B)) following the procedure given in the impression techniques section. Take an impression of the opposing arch. Make a bite registration. Send the impressions, analogue, impression abutment screw, laboratory screw and bite registration to the laboratory.



STEP 2 - Laboratory | Obtain the working model

Make the working models from type IV plaster (American Dental Association (ADA) Specification No. 25 with minimum expansion, high level of hardness) according to the plaster manufacturer's recommendations. Model the soft tissue and articulate with the bite registration according to the usual laboratory procedures.



STEP 3 - Laboratory | Select and attach the abutment



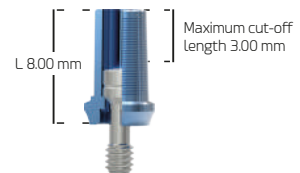
Select the abutment based on the implant platform, gingival height and angle required. Place the abutment on the analogue, making sure it is seated properly in the connection, and tighten the laboratory screw by hand using the surgical screwdriver. Evaluate the interocclusal space, angle and soft tissue contour. Mark the abutment with the required modifications, considering the minimum thickness of the restoration material.



STEP 4 - Laboratory | Prepare the abutment



Remove the abutment from the analogue and attach it to a universal handle with the appropriate tip. Prepare the abutment according to the marks made in the previous step. Define the margins of the preparation. Make a mark on the buccal side of the abutment to make positioning in the oral cavity easier.

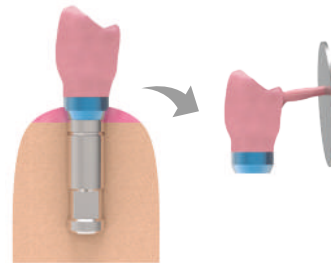


STEP 5 - Laboratory | Mount the abutment on the model



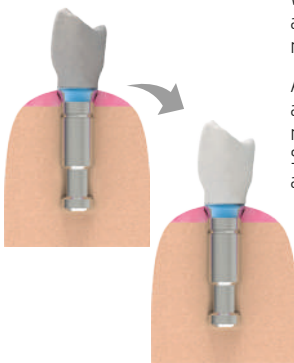
To make the final adjustments, position the abutment on the model and secure it with the laboratory screw using manual torque. Consider marginal preparation (0.50-1.00 mm subgingival margin in the aesthetic zone; in non-aesthetic zones, leave margins equatingival or supragingival).

STEP 6 - Laboratory | Wax up and cast metal core of the crown



Fill the screw access hole to prevent it from becoming contaminated with the wax and apply the separating agent. Wax up the metal core, separate the core from the abutment and add the sprue. Cast the framework using the lost-wax casting method following the recommendations of the manufacturer of the selected material.

STEP 7 - Laboratory | Prepare the crown and layer with ceramic



Remove the sprue from the framework. Check the fit between the metal framework and the abutment. Carry out final adjustments prior to layering with ceramic.

Apply opaquer to the metal framework and then layer with ceramic. Finish the restoration as per the usual procedure. Send the finished crown and prepared abutment to the dentist.

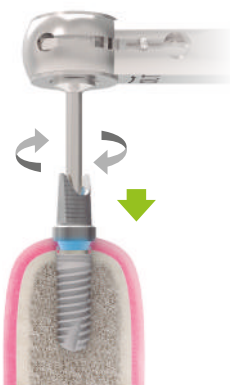
STEP 8 - Laboratory | Clean and place abutment in mouth



Disinfect the prepared abutment and crown. Remove the healing abutment or Provisional prosthesis using the surgical screwdriver. Check that the implant connection is clear of any surrounding tissues. Place the abutment on the implant, making sure the two components are seated properly, and secure with the clinical screw by hand using the surgical screwdriver. Take a periapical X-ray to verify that the abutment is properly seated on the implant.



STEP 9 - Laboratory | Apply final torque to the clinical screw



Tighten the clinical screw to 30 Ncm using a screwdriver tip and the torque wrench. The tip is attached to the ratchet using the 4x4 mm square connection (see torque table on page 52).

30 Ncm **Caution:** Do not exceed the set torque.

STEP 10 - Laboratory | Cement the crown



Place a resilient material in the screw access hole and then seal using filling material. This procedure will make it easier to access the screw in the future. Check that the abutment has engaged properly with the implant by taking a periapical X-ray.

Abutments: definitive restorations

Screwed direct to implant

Purpose

UCLA or CoCr machined base castable abutments are used for single-unit or multi-unit restorations. Procedures to fabricate crowns or bridges are performed in the laboratory and restorations are attached directly to the implant using a clinical screw.



UCLA or machined base abutments

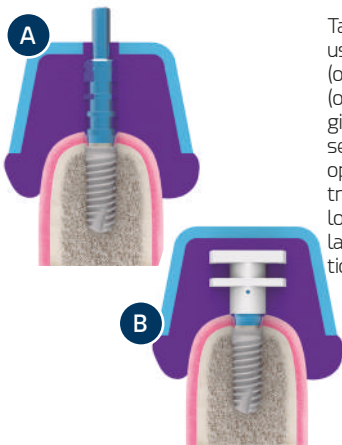
INTRODUCTION | Material required

1. UCLA castable (Ref. NUEX3400) ROT
2. Machined base + castable abutment (Ref. BNUEX34) ROT
3. Clinical screw (Ref. DSEI3400)
4. Kiran clinical screw (Ref. DSEI3410)
5. Laboratory screw (Ref. LB103400)
6. Surgical screwdriver (Ref. LMSD)
7. Screwdriver tip (Ref. LMSD1)
8. Torque wrench (Ref. TORK50)



Procedure: the following illustrations show an example of a single-unit screw-retained Definitive restoration using a castable abutment with RP platform.

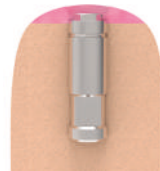
STEP 1 - Clinical | Take the impression



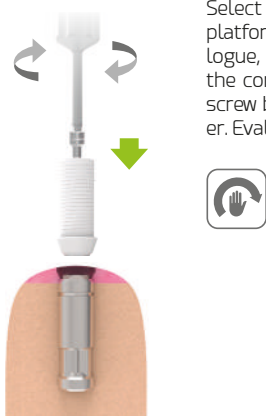
Take an impression of the implant using the method of your choice (open tray (option A) or closed tray (option B)) following the procedure given in the impression techniques section. Take an impression of the opposing arch. Make a bite registration. Send the impressions, analogue, impression abutment screw, laboratory screw and bite registration to the laboratory.

STEP 2 - Laboratory | Obtain the working model

Make the working models from type IV plaster (American Dental Association (ADA) Specification No. 25 with minimum expansion, high level of hardness) according to the plaster manufacturer's recommendations. Model the soft tissue and articulate with the bite registration according to the usual laboratory procedures.



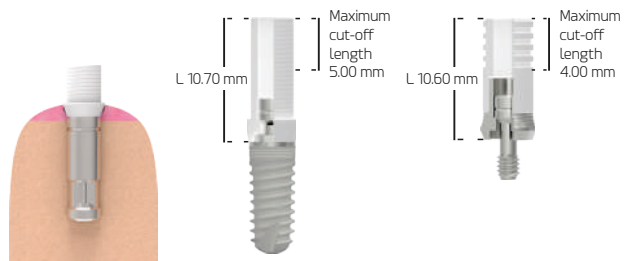
STEP 3 - Laboratory | Select the abutment



Select the abutment based on the implant platform. Place the abutment on the analogue, making sure it is seated properly in the connection, and tighten the laboratory screw by hand using the surgical screwdriver. Evaluate the interocclusal space.

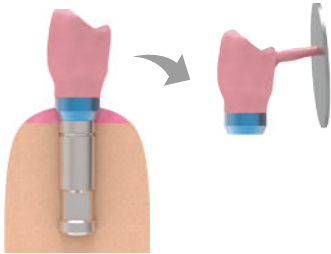
STEP 4 - Laboratory | Prepare the abutment

Prepare the abutment and make any necessary modifications considering the interocclusal space.



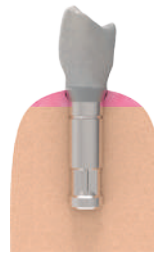
STEP 5 - Laboratory | Wax up and cast metal core of the crown

Fill the screw access hole to prevent it from becoming contaminated with the wax. Wax up the metal core, separate the core from the abutment and add the sprue. Cast the framework using the lost-wax casting method following the manufacturer's recommendations.



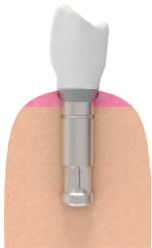
STEP 6 - Laboratory | Prepare the crown to receive ceramic

Remove the sprue from the framework. Check the fit between the metal framework and the abutment. Carry out final adjustments prior to layering with ceramic.



STEP 7 - Laboratory | Layer with ceramic

Apply opaquer to the metal framework and then layer with ceramic. Finish the crown as per the usual procedure. Send the finished crown and prepared abutment to the dentist.



STEP 8 - Clinical | Clean and place abutment in mouth

Disinfect the restoration. Remove the healing abutment or Provisional prosthesis with the surgical screwdriver. Check that the implant connection is clear of any surrounding tissues. Position the restoration on the implant and attach it by hand using the clinical screw and the surgical screwdriver. Take a periapical X-ray to verify that the restoration is properly seated on the implant.



STEP 9 - Clinical | Apply final torque to the screw

Tighten the clinical screw to 30 Ncm using a screwdriver tip and the torque wrench. The tip is attached to the ratchet using the 4x4 mm square connection (see torque table on page 52).



Caution:
Do not exceed the set torque.

STEP 10 - Clinical | Fill the screw access hole

Place a resilient material in the screw access hole and then seal using filling material. This procedure will make it easier to access the screw in the future. Check that the abutment has engaged properly with the implant by taking a periapical X-ray.



Abutments: definitive restorations

Screwed to implant with Tx30 Variable Rotation abutment

Purpose

Tx30 abutments consist of a cobalt-chromium machined base and castable castable abutment with different fixed angles, which allow full 360° rotation on the base. They are used for single-unit or multi-unit restorations. Procedures to fabricate crowns or bridges are performed in the laboratory. Restorations are attached directly to the implant using the Tx30 clinical screw and the Tx30 screwdriver. These components have been specially designed to allow the screw to be tightened and loosened under angled conditions.



Tx30 variable rotation abutment

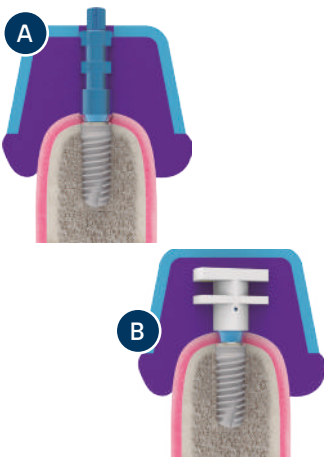
INTRODUCTION | Material required

1. Tx30 machined base abutment + 2 castable castable abutment (15° and 20°) (Ref. BNUZ34TX) ROT (Ref. MESDXTX)
2. Tx30 machined base abutment + 2 castable castable abutment (20° and 25°) (Ref. BNUZ34TX1) ROT (Ref. LMSDXTX)
3. Kiran Tx30 clinical screw (Ref. DSZ3410TX)
4. Tx30 Ratchet/manual screwdriver tip (Ref. LMSDITX)
5. Tx30 CA screwdriver tip
6. Manual Tx30 prosthetic screwdriver (Ref. LMSDXTX)
7. Torque wrench (Ref. TORK50)



Procedure: the following illustrations show an example of a single-unit screw-retained Definitive restoration using a Tx30 Variable Rotation abutment with RP platform.

STEP 1 - Clinical | Take the impression



Take an impression of the implant using the method of your choice (open tray (option A) or closed tray (option B)) following the procedure given in the impression section. Take an impression of the opposing arch. Make a bite registration. Send the impressions, analogue, impression abutment screw, Tx30 Kiran clinical screw and bite registration to the laboratory.

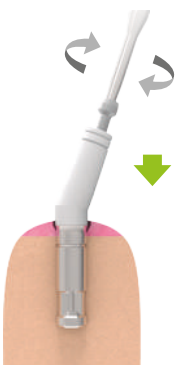
STEP 2 - Laboratory | Obtain the working model

Make the working models from type IV plaster (American Dental Association (ADA) Specification No. 25 with minimum expansion, high level of hardness) according to the plaster manufacturer's recommendations. Model the soft tissue and articulate with the bite registration according to the usual laboratory procedures.



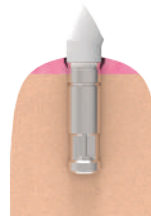
STEP 3 - Laboratory | Select the abutment

Select the abutment based on the implant platform. Place the machined base on the analogue, making sure it is seated properly in the connection. Secure the machined base by hand using the Tx30 clinical screw and the Tx30 surgical screwdriver. Select the angle of the castable chimney (15°, 20° and 25°) according to each clinical case. Select the castable chimney based on the location and angle of the implant in order to determine the emergence of the screw hole. Press the castable chimney onto the machined base to ROTe it properly. Rotate the castable chimney on the machined base until it is in the right position.



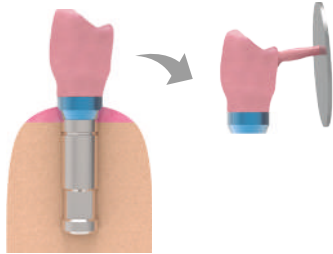
STEP 4 - Laboratory | Prepare the abutment

Evaluate the interocclusal space. Prepare the abutment and make any necessary modifications considering the interocclusal space.



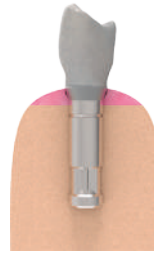
STEP 5 - Laboratory | Wax up and cast metal core of the crown

Fill the screw access hole to prevent it from becoming contaminated with the wax. Wax up the metal core, separate the core from the abutment and add the sprue. Cast the framework using the lost-wax casting method following the manufacturer's recommendations.



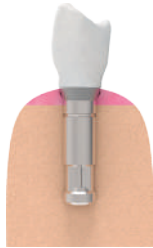
STEP 6 - Laboratory | Prepare the crown to receive ceramic

Remove the sprue from the framework. Check that the abutment fits properly. Carry out final adjustments prior to layering with ceramic.



STEP 7 - Laboratory | Layer with ceramic

Apply opaquer to the metal core and then layer with ceramic. Finish the crown as per the usual procedure. Send the finished crown and prepared abutment to the dentist.



STEP 8 - Clinical | Clean and place abutment in mouth

Disinfect the restoration. Remove the healing abutment or Provisional prosthesis with the Tx30 surgical screwdriver. Check that the implant connection is clear of any surrounding tissues. Position the restoration on the implant and attach it by hand using the Tx30 Kiran clinical screw and the Tx30 surgical screwdriver. Take a periapical X-ray to verify that the restoration is properly seated on the implant.



STEP 9 - Clinical | Apply final torque to the screw

Tighten the clinical screw to 30 Ncm using the Tx30 contra-angle screwdriver tip or the Tx30 ratchet screwdriver tip (see torque table on page 52).



Caution:
Do not exceed the set torque.



STEP 10 - Clinical | Fill the screw access hole

Place a resilient material in the screw access hole and then seal using filling material. This procedure will make it easier to access the screw in the future. Check that the abutment has engaged properly with the implant by taking a periapical X-ray.



Abutments: definitive restorations

Screwed to Basic transepithelial abutment

Purpose

Basic transepithelial abutments are indicated for single-unit or multi-unit restorations based on the abutment selected. They allow implants that are up to 36° away from being parallel to be corrected.

The Definitive restoration will be fabricated in the laboratory using castable abutments or CoCr machined base abutments + castable chimney that are placed on the transepithelial abutments.



Basic

INTRODUCTION | Material required

1. Basic abutment (Ref. BASIC3403) ROT
2. Basic UCLA (Ref. BARUEX34) ROT
3. Basic machined base abutment + castable abutment (Ref. BBRU34) ROT
4. Basic clinical screw (Ref. BDSEI3400)
5. Kiran Basic clinical screw (Ref. BDSEI3410)
6. Basic laboratory screw (Ref. BDSEI3401)
7. Basic healing abutment (Ref. BAHAEX34)
8. Basic analogue (Ref. BAIAEX34) ROT
9. Surgical screwdriver (Ref. LMSD)
10. Basic insertion key (Ref. MABA100)
11. Screwdriver handle (Ref. MADW10)
12. Torque wrench (Ref. TORK50)



Procedure: the following illustrations show an example of a multi-unit screw-retained Definitive restoration using a Basic abutment with RP platform.

STEP 1 - Clinical | Select Basic abutments

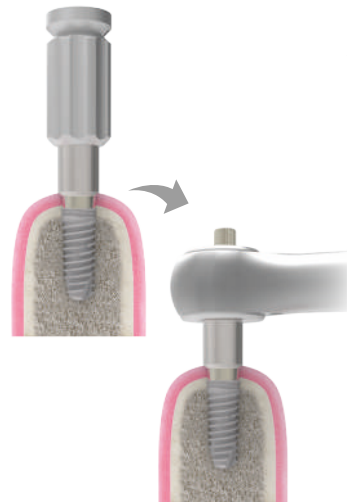


Identify the implant platform and determine the gingival height of the Basic abutments required. Select the type of abutment to be used: non-rotating or rotating.

Place the insertion key in the abutment and adjust using the posterior screw.



STEP 2 - Clinical | Place the abutments on the implant

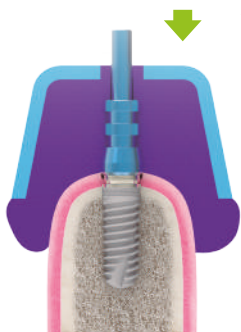


Screw the insertion key-abutment assembly into the implant by hand. Place the torque wrench over the insertion key and apply torque at 30 Ncm (see torque table on page 52).



Caution:
Do not exceed the set torque.

STEP 3 - Clinical | Take impression on transepithelial abutments



Take an impression of the implant following the procedure given in the impression-taking techniques section. Take an impression of the opposing arch. Make a bite registration. Send the impressions, analogue, impression abutment screw, Basic laboratory screw and bite registration to the laboratory. Fit the Basic healing abutments.

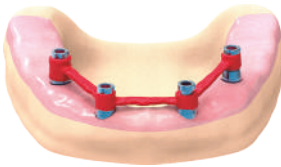
STEP 4 - Laboratory | Obtain the working model



Make the working models from type IV plaster (American Dental Association (ADA) Specification No. 25 with minimum expansion, high level of hardness) according to the plaster manufacturer's recommendations. Model the soft tissue and articulate with the bite registration according to the usual laboratory procedures.

STEP 5 - Laboratory | Check passive fit

Place the impression abutments on the Basic abutments on the working model and secure by hand using the impression abutment screw and the surgical screwdriver. Splint the abutments using the usual technique. Send the passive fit template to the dentist to confirm passive fit intraorally. If the template does not fit passively, make the necessary modifications, cut into segments and re-splint.



STEP 6 - Laboratory | Fabricate wax rims

Fabricate acrylic record base and wax rims with fixation holes and send to the clinician to determine the intermaxillary relations and mark reference lines.



STEP 7 - Laboratory | Record the intermaxillary relations

Remove the Basic healing abutments using a surgical screwdriver. Attach the wax rims to the Basic abutments using the laboratory screw. Determine facial fullness, reference planes, midline, smile line and commissures. Record the vertical dimension. Replace the healing abutments to prevent soft tissue collapse and send the records to the laboratory.



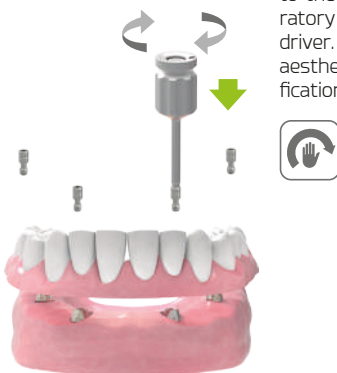
STEP 8 - Clinical | Set up teeth

Attach the denture base to the model and mount it on the articulator together with its opposing model and start tooth set-up. Modify the teeth to allow access to the screws.



STEP 9 - Clinical | Perform aesthetic try-in

Position the prosthesis and attach it to the Basic abutments using a laboratory screw and the manual screwdriver. Check occlusion, phonetics and aesthetics. Make any necessary modifications.



STEP 10 - Clinical | Denture bite registration

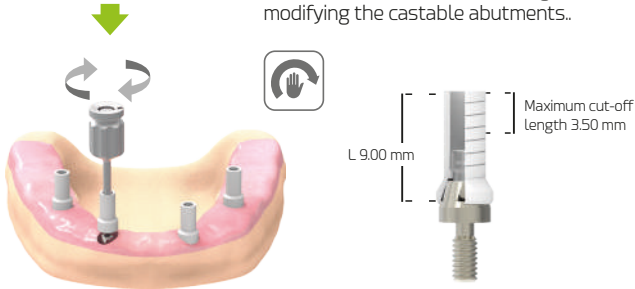
Make a silicone key of the buccal area of the prosthesis teeth.



Abutments: definitive restorations

STEP 11 - Laboratory | Attach and modify Basic abutments

Place the castable or machined base abutments on the Basic abutments on the working model and secure by hand using a laboratory screw and the surgical screwdriver. Use the silicone key as a guide when modifying the castable abutments..



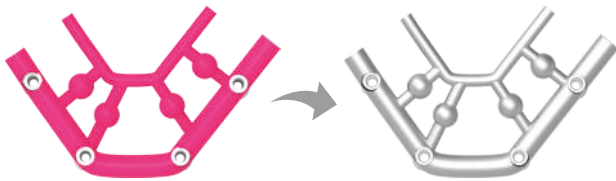
STEP 12 - Laboratory | Design and wax the framework

Design and wax the prosthesis framework according to standard design criteria, which facilitate hygiene and acrylic retention in the framework.



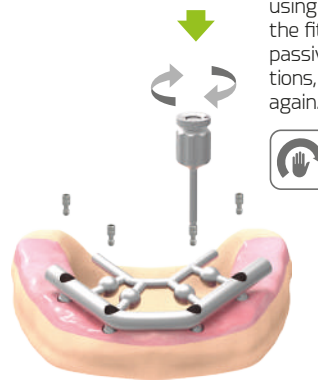
STEP 13 - Laboratory | Cast the framework

Prepare the waxed framework for casting according to standard laboratory procedures. Cast the framework, revise and polish as necessary.



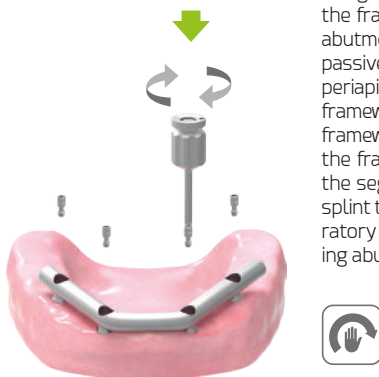
STEP 14 - Laboratory | Verify the framework

Place the framework on the model and secure with the Basic laboratory screws using the manual screwdriver and check the fit. If the metal framework does not fit passively, make any necessary modifications, cut into segments, re-splint and weld again.



STEP 15 - Clinical | Perform metal framework try-in

Remove the Basic healing abutments using the surgical screwdriver. Place the framework on the transepithelial abutments and check that it is seated passively on each abutment. Take periapical X-rays to verify that the framework is seated properly. If the framework does not fit passively, cut the framework into segments, adjust the segments on the abutments and splint the assembly. Send to the laboratory for welding. Replace the healing abutments.



STEP 16 - Laboratory | Fabricate the prosthesis

Once the passive fit of the framework has been checked, position the teeth in the wax according to conventional prosthesis fabrication procedures. Send the hybrid prosthesis to the clinician.



STEP 17 - Clinical | Perform final check of the prosthesis



Remove the Basic healing abutments using the surgical screwdriver. Place the framework on the Basic transepithelial abutments and check occlusion, aesthetics and phonetics. Make any necessary modifications. Replace the Basic healing abutments.



STEP 18 - Laboratory | Cure the prosthesis

Perform the usual flasking and curing processes to fabricate the final prosthesis.



STEP 19 - Clinical | Apply final torque to the screw

Remove the Basic healing abutments using the surgical screwdriver. Place the framework on the Basic transepithelial abutments and secure using the clinical screw at 25 Ncm and a screwdriver tip and the torque wrench (see torque table on page 52).



Important note:
Do not exceed 25 Ncm to avoid breaking the screw.



STEP 20 - Clinical | Fill the screw access hole

Place a resilient material in the screw access hole at the end of the screw channel and then seal using filling material. This procedure will make it easier to access the screw in the future. Take a periapical X-ray to verify that the framework is seated properly.



Abutments: definitive restorations

Screwed to XDrive transepithelial abutment

Purpose

XDrive transepithelial abutments are intermediate abutments that are indicated for multi implant and/or angled implant restorations.

The restoration technique can be used with both straight and angled abutments and is independent of the gingival height chosen for the abutment by the dentist for the treatment.

The Definitive restoration will be fabricated in the laboratory using castable or CoCr machined base abutments + castable abutment that are placed on the transepithelial abutments.

INTRODUCTION | Material required

1. XDrive straight abutment (Ref. XST103430)
2. XDrive 17° angled abutment (Ref. XA3103417)
3. XDrive 30° angled abutment (Ref. XA3103430)
4. XDrive UCLA (Ref. XRU103400) ROT
5. XDrive machined base abutment + castable abutment (Ref. XBRU34) ROT
6. XDrive clinical screw (Ref. XDS103410)
7. Kiran XDrive clinical screw (Ref. XDS103411)
8. XDrive laboratory screw (Ref. XLB103410)
9. XDrive healing abutment (Ref. XH103400)
10. XDrive analogue (Ref. XIA103400)
11. Surgical screwdriver (Ref. LMSD)
12. CA screwdriver tip (Ref. MESD)
13. Screwdriver tip (Ref. LMSD1)
14. XDrive insertion key (Ref. MABA200)
15. Screwdriver handle (Ref. MADW10)
16. Torque wrench (Ref. TORK50)



XDrive



Procedure: the following illustrations show an example of a multi-unit screw-retained Definitive restoration using an XDrive abutment with RP platform.

STEP 1 - Clinical | Select and place the XDrive abutments on the implant



Identify the implant platform and determine the gingival height of the XDrive abutments required. Select the type of abutment to be used: straight, 17° angled or 30° angled. Place the insertion key in the straight abutment and adjust using the posterior screw.



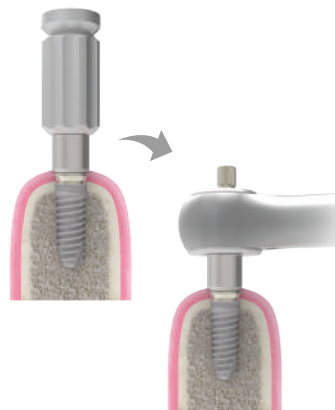
Straight

17°

30°



STEP 2 A - Clinical | Straight abutments



Screw the straight abutment-insertion key assembly into the implant by hand. Place the torque wrench over the insertion key and apply torque at 30 Ncm (see torque table on page 52).



Caution:
Do not exceed the set torque.

STEP 2 B - Clinical | Angled abutments

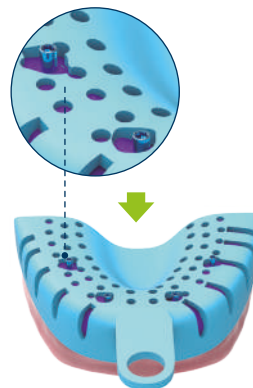


Insert the angled abutment into the implant and choose the position for angle correction. Screw it in by hand using the surgical screwdriver. Then, with a contra-angle or ratchet screwdriver tip, apply a torque of 30 Ncm using the contra-angle or torque wrench, as appropriate.



Caution:
Do not exceed the set torque.

STEP 3 - Clinical | Take impression on transepithelial abutments



Take an impression of the implant following the procedure given in the impression-taking techniques section. Take an impression of the opposing arch. Make a bite registration. Send the impressions, analogue, impression abutment screw, XDrive laboratory screw and bite registration to the laboratory. Fit the XDrive healing abutments.

STEP 4 - Laboratory | Obtain the working model

Make the working models from type IV plaster (American Dental Association (ADA) Specification No. 25 with minimum expansion, high level of hardness) according to the plaster manufacturer's recommendations. Model the soft tissue and articulate with the bite registration according to the usual laboratory procedures.



STEP 5 - Laboratory | Check passive fit

Place the impression abutments on the XDrive abutments on the working model and secure by hand using the impression abutment screw and the surgical screwdriver. Splint the abutments using the usual technique. Send the passive fit template to the clinician to confirm passive fit intraorally. If the template does not fit passively, make the necessary modifications, cut into segments and re-splint.



STEP 6 - Laboratory | Fabricate wax rims

Fabricate acrylic record base and wax rims with fixation holes and send to the clinician to determine the intermaxillary relations and mark reference lines.



STEP 7 - Clinical | Record the intermaxillary relations

Remove the XDrive healing abutments using the surgical screwdriver. Attach the wax rims to the XDrive abutments using the laboratory screw. Determine facial fullness, reference planes, midline, smile line and commissures. Record the vertical dimension. Replace the healing abutments to prevent soft tissue collapse and send the records to the laboratory.



STEP 8 - Clinical | Set up teeth

Attach the prosthesis base to the model and mount it on the articulator together with its opposing model and start tooth set-up. Modify the teeth to allow access to the screws.



STEP 9 - Clinical | Perform aesthetic try-in

Place the prosthesis in the patient's mouth and attach it to the XDrive abutments using a laboratory screw and the manual screwdriver. Apply manual torque. Check occlusion, phonetics and aesthetics. Make any necessary modifications.



Abutments: definitive restorations

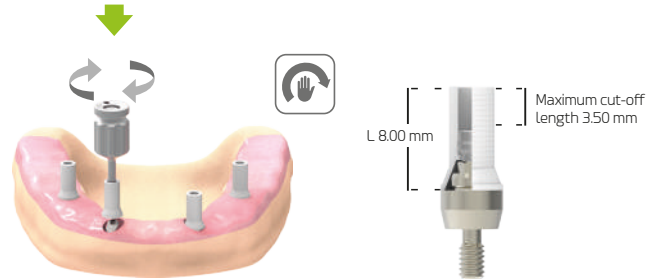
STEP 10 - Laboratory | Denture bite registration

Make a silicone key of the buccal area of the prosthesis teeth.



STEP 11 - Laboratory | Attach and modify XDrive abutments

Place the castable or machined base castable abutments on the XDrive abutments on the working model, checking that they are seated properly in the connection, and secure them by hand using a laboratory screw and the surgical screwdriver. Use the silicone key as a guide when modifying the castable abutments.



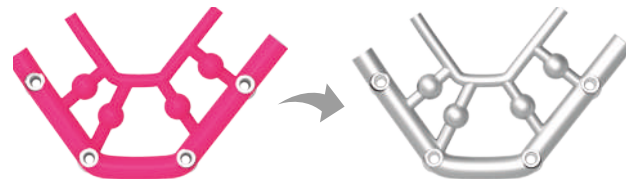
STEP 12 - Laboratory | Design and wax the framework

Design and wax the prosthesis framework according to standard design criteria, which facilitate hygiene and acrylic retention in the framework.



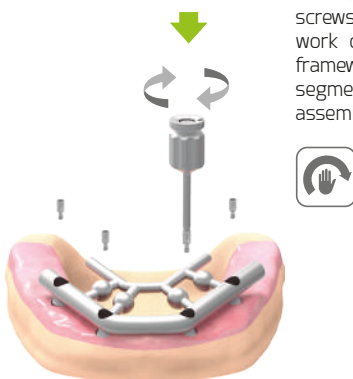
STEP 13 - Laboratory | Cast the framework

Prepare the waxed framework for casting according to standard laboratory procedures. Cast the framework, revise and polish as necessary.



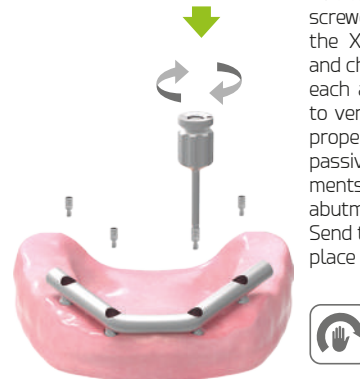
STEP 14 - Laboratory | Check fit of the framework on the working model

Place the framework on the model and secure with the XDrive laboratory screws and check the fit. If the framework does not fit passively, cut the framework into segments, adjust the segments on the abutments, splint the assembly and weld again.



STEP 15 - Clinical | Perform metal framework try-in

Remove the XDrive healing abutments using the surgical screwdriver. Place the framework on the XDrive transepithelial abutments and check that it is seated passively on each abutment. Take periapical X-rays to verify that the framework is seated properly. If the framework does not fit passively, cut the framework into segments, adjust the segments on the abutments and splint the assembly. Send to the laboratory for welding. Replace the healing abutments.



STEP 16 - Laboratory | Fabricate the prosthesis

Once the passive fit of the framework has been checked, position the teeth in the wax according to conventional prosthesis fabrication procedures. Send the hybrid prosthesis to the clinician.



STEP 18 - Laboratory | Cure the prosthesis

Perform the usual flasking and curing processes to fabricate the final prosthesis.



STEP 20 - Clinical | Fill the screw access hole

Place a resilient material in the screw access hole at the end of the screw channel and then seal using filling material. This procedure will make it easier to access the screw in the future. Take a periapical X-ray to verify that the prosthesis is seated properly.



STEP 17 - Clinical | Perform final check of the prosthesis

Remove the XDrive healing abutments using the surgical screwdriver. Place the framework on the XDrive transepithelial abutments and check occlusion, aesthetics and phonetics. Make any necessary modifications. Replace the XDrive healing abutments.



STEP 19 - Clinical | Apply final torque to the screw

Remove the XDrive healing abutments using the surgical screwdriver. Place the framework on the XDrive transepithelial abutments and secure using the clinical screw at 20 Ncm and a screwdriver tip and the torque wrench (see torque table on page 52).



Important note:
Do not exceed 20 Ncm to avoid breaking the screw.



Abutments: definitive restorations

ZM-Equator overdenture

Purpose

ZM-Equator abutments are prosthetic abutments that are used to retain pre-existing or newly fabricated full dentures. Dentures that are retained using ZM-Equator prosthetic abutments are classified as implant-retained, tissue-supported overdentures.



ZM-Equator

INTRODUCTION | Material required

1. ZM-Equator abutment (Ref. ZMEX3402)
2. ZM-Equator processing pack (Ref. ZM8520)
3. ZM-Equator divergent processing pack (Ref. ZM8520D)
4. Surgical screwdriver (Ref. LMSD)
5. Ratchet-manual screwdriver tip (Ref. LMSD1)
6. CA screwdriver tip (Ref. MESD)
7. Manual screwdriver handle (Ref. MADW10)
8. Retainer insertion tool (Ref. MBEI3603)
9. Retainer insertion tool handle + extractor (Ref. MBEI3610)
10. Torque wrench (Ref. TORK50)



Procedure: the following illustrations show an example of a removable restoration retained by an ZM-Equator abutment with RP platform.

STEP 1 - Clinical | Remove the healing abutment



Remove the healing abutment from the implant either by hand or using the surgical screwdriver by turning it anti-clockwise.

Check that the abutment connection is clear of any surrounding tissues.



STEP 2 - Clinical | Select and position the ZM-Equator abutments



Select the abutment based on the gingival height and implant platform. Screw the abutments into the implants by hand using the surgical screwdriver and apply final torque at 30 Ncm using a screwdriver tip attached to the torque wrench or a contra-angle screwdriver tip. Check that the abutment has engaged properly with the implant by taking a periapical X-ray (see torque table on page 52).



Caution:
Do not exceed the set torque.

STEP 3 - Clinical | Mark and drill holes for metal housings



Mark the top of the abutments using the technique of your choice (suitable marker, articulating paper, etc.). Place the prosthesis in the oral cavity and press down on the abutments to transfer the marks. Remove the prosthesis and check that the marks are visible. Repeat the procedure if necessary.

Use an acrylic or metal bur to remove material at the marked points to make space for the metal housing. Make small holes in the lingual or palatal area to allow excess acrylic to flow through.

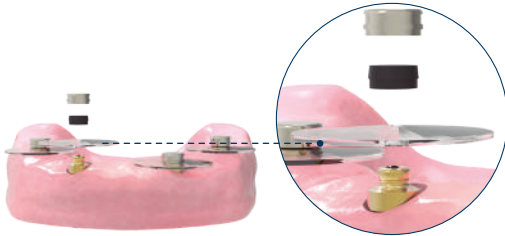
STEP 4 - Laboratory | Insert the plastic retainers into the metal housing



Attach the ZM-Equator retainer insertion tool to the insertion tool handle. Use the insertion tool handle to place the plastic retainer inside the metal housing. It is recommended that the black laboratory plastic retainer be used.

STEP 5 - Clinical | Place the retainers on the ZM-Equator abutments

Place the block-out spacer over the abutment to protect the soft tissue from the relining material. Place the retainers onto the abutments. Check that the retainers have engaged properly.



STEP 6 - Clinical | Apply acrylic resin

Apply a small amount of acrylic resin to the holes made in the prosthesis following the recommendations of the filling material manufacturer.



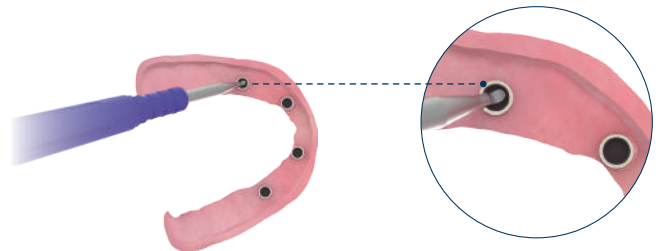
STEP 7 - Clinical | Position the prosthesis

Place the prosthesis on the abutments again and check occlusion. Ask the patient to maintain occlusion while the material cures.



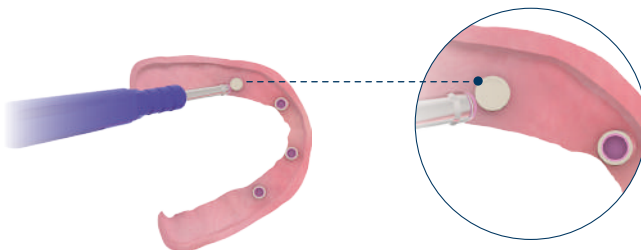
STEP 8 - Clinical | Remove the prosthesis, remove excess acrylic and polish

Once the acrylic resin has cured, remove the prosthesis and block-out spacers. Remove any excess acrylic from around the metal housings and overflow holes. Perform the final polish.



STEP 9 - Clinical | Check retention and fit

Remove the black plastic retainer from the metal housing using the retainer extractor. Insert the plastic retainer deemed to be appropriate using the ZM-Equator inserter and handle. Use the plastic retainer extractor again if you need to change the retainers.



STEP 10 - Clinical | Insert the denture and finish

Place the prosthesis in the patient's mouth again. Check occlusion and make any necessary modifications. Teach the patient how to insert and remove the prosthesis and how to keep it clean and maintain it.



Abutments: definitive restorations

Kirator overdenture

Purpose

Kirator abutments are prosthetic abutments that are used to retain pre-existing or newly fabricated full dentures. Dentures that are retained using Kirator prosthetic abutments are classified as implant-retained, tissue-supported overdentures.



Kirator

INTRODUCTION | Material required

1. Kirator abutment (Ref. LOEX3402)
2. Kirator processing pack (Ref. TP8520)
3. Kirator divergent processing pack (Ref. TP8520D)
4. Surgical screwdriver (Ref. LM5D)
5. Kirator Ratchet/Manual insertion key (Ref. LOSD01)
6. Kirator CA insertion key (Ref. LOSD02)
7. Retainer insertion tool (Ref. MBEI3602)
8. Retainer insertion tool handle + extractor (Ref. MBEI3610)
9. Torque wrench (Ref. TORK50)



Procedure: the following illustrations show an example of a Definitive restoration with overdenture with Kirator abutments and RP platform.

STEP 1 - Clinical | Remove the healing abutments



Remove the healing abutment from the implant either by hand or using the surgical screwdriver by turning it anti-clockwise.

Check that the abutment connection is clear of any surrounding tissues.



STEP 2 - Clinical | Select and position the Kirator abutments



Select the abutment based on the gingival height and implant platform. Screw the abutments into the implants by hand using the insertion key and apply final torque at 30 Ncm using the insertion key attached to the torque wrench or a contra-angle insertion key. Check that the impression abutment has engaged properly with the implant by taking a periapical X-ray (see torque table on page 52).



Caution:
Do not exceed the set torque.

STEP 3 - Clinical | Mark and drill holes for metal housings



Mark the top of the abutments using the technique of your choice (suitable marker, articulating paper, etc.). Place the prosthesis in the oral cavity and press down on the abutments to transfer the marks. Remove the prosthesis and check that the marks are visible.

Use an acrylic or metal bur to remove material at the marked points to make space for the metal housing. Make small holes in the lingual or palatal area to allow excess acrylic to flow through.

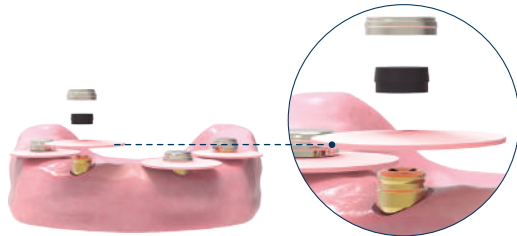
STEP 4 - Clinical | Insert the plastic retainers into the metal housing



Attach the Kirator retainer insertion tool to the insertion tool handle. Use the insertion tool handle to place the plastic retainer inside the metal housing. It is recommended that the black laboratory plastic retainer be used.

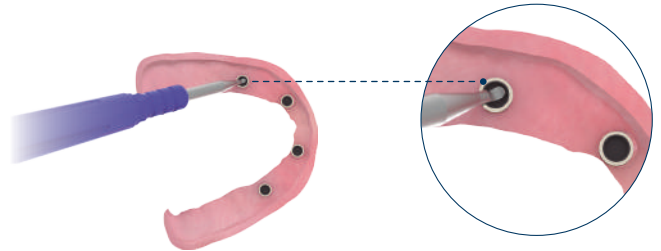
STEP 5 - Clinical | Place the retainers on the Kirator abutments

Place the block-out spacer over the abutment to protect the soft tissue from the reline material. Place the retainers onto the abutments.



STEP 6 - Clinical | Apply acrylic resin

Apply a small amount of acrylic resin to the holes made in the prosthesis following the recommendations of the filling material manufacturer.



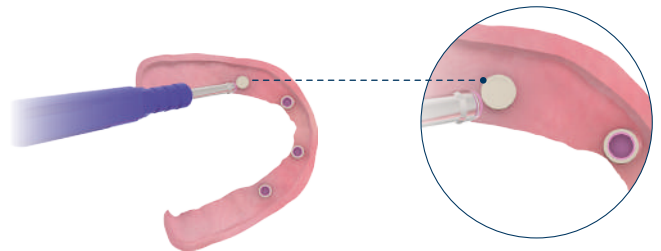
STEP 7 - Clinical | Position the prosthesis

Place the prosthesis on the abutments again and ask the patient to maintain occlusion while the material cures.



STEP 8 - Clinical | Remove the prosthesis, remove excess acrylic and polish

Once the acrylic resin has cured, remove the prosthesis and block-out spacers. Remove any excess acrylic from around the metal housings and overflow holes. Perform the final polish.



STEP 9 - Clinical | Check retention and fit

Remove the black plastic retainer from the metal housing using the retainer extractor. Insert the plastic retainer deemed to be appropriate using the Kirator inserter and handle. Use the plastic retainer extractor again if you need to change the retainers.



STEP 10 - Clinical | Insert the denture and finish

Place the prosthesis in the patient's mouth again. Check occlusion and make any necessary modifications. Teach the patient how to insert and remove the prosthesis and how to keep it clean and maintain it.



Abutments

Symbology

| Symbol | Meaning | Symbol | Meaning | Symbol | Meaning |
|--------|--|--------|---|--------|--|
| | Rotatory element | | Tx30 connection | | Made from cobalt chromium + castable plastic |
| | Non-rotatory element | | Size in millimeters | | Made from cobalt chromium |
| | Use with manual torque (consult table below) | | 45° screw support | | Made from PEEK |
| | Maximum operating torque | | 90° screw support | | Made from castable plastic |
| | Ratchet torque range | | Use in rotation with a CA | | Made from plastic |
| | Galaxy connection | | Maximum rotation speed | | Recommended sterilisation temperature |
| | Screw connection | | Maximum number of uses | | Unsterilised product |
| | Kirator connection | | Single-use product | | Use with abundant irrigation |
| | Basic connection | | Made from grade 5 ELI (extra-low interstitial) titanium | | Maximum angle |
| | XDrive connection | | Made from stainless steel | | |

Attachment torque table

| Element/Attachment | Instrument/Tool | Torque |
|---|---|--------|
| Cover screws/Healing abutments | Hex screwdriver 1.25 mm | Manual |
| Impression abutment screws | Hex screwdriver 1.25 mm | Manual |
| Laboratory screws | Hex screwdriver 1.25 mm | Manual |
| Direct-to-implant clinical screws | Hex screwdriver 1.25 mm | 30 Ncm |
| Direct-to-implant Kiran clinical screws | Hex screwdriver 1.25 mm | 30 Ncm |
| Basic/XDrive abutments | Insertion keys: MABA100/MABA110/MABA200/MABA210 | 30 Ncm |
| Clinical screws on Basic | Hex screwdriver 1.25 mm | 25 Ncm |
| Kiran clinical screws on Basic | Hex screwdriver 1.25 mm | 25 Ncm |
| Clinical screws on XDrive | Hex screwdriver 1.25 mm | 20 Ncm |
| Kiran clinical screws on XDrive | Hex screwdriver 1.25 mm | 20 Ncm |
| ZiaCam scanbody + screw | Hex screwdriver 1.25 mm | Manual |
| Kirator abutments | Insertion keys: LOSD01/LOSD02 | 30 Ncm |
| ZM-Equator abutments | Hex screwdriver 1.25 mm | 30 Ncm |
| Tx30 abutment/screw (variable rotation) | Tx30 Torx screwdriver | 30 Ncm |

WARNING

Exceeding the recommended tightening torque for screws and abutments compromises the prosthetic restoration and could damage the implant structure.



For immediate loading: DO NOT tighten by hand; secure with final torque. When using a screwdriver or adaptor for a contra-angle handpiece (CA), do not exceed a maximum speed of 25 rpm.

Cleaning, disinfection and sterilisation



Cleaning, disinfection and sterilisation

The protocols described in this section must only be carried out by personnel qualified to clean, disinfect and sterilise the dental materials specified here in.

Cleaning and disinfection instructions

Applicable for instruments, surgical and prosthetic boxes and plastic retainer caps.

■ Disassembly

1. Dismount* the appropriate instruments, for example manual ratchets, drills or drill stops.
2. Remove the various components from the surgical or prosthetic box for correct cleaning.

■ Cleaning and disinfection

For disinfecting instruments and surgical boxes:

1. Submerge the instruments in a detergent/disinfectant solution** suitable for dental instruments to help eliminate any adhered biological residues. If an ultrasound bath is available***, confirm that the detergent/disinfectant solution is indicated for use with this type of equipment.
2. Manually remove any biological residues with a non-metallic brush and pH-neutral detergent.
3. Rinse with copious water.
4. When cleaning the surgical and prosthetic boxes, always use a pH-neutral detergent and non-abrasive utensils to avoid damaging the surface of the boxes.
5. Dry the materials with disposable cellulose, lint-free clothes or compressed air.

For disinfecting plastic caps and spacers:

1. Submerge in a neat benzalkonium chloride solution for 10 minutes.
2. Rinse with distilled water.
3. Dry the caps and spacer before use.

■ Inspection

1. Check that the instruments are perfectly clean; if not, repeat the cleaning and disinfection steps.
2. Discard any instruments with imperfections and replace them before the next procedure.
3. Check that the instruments and the surgical and prosthetic boxes are perfectly dry before reassembling the parts and proceeding to their sterilisation.

* See the assembly disassembly manuals at www.ziacom.com/biblioteca

** Follow the instructions from the disinfectant's manufacturer to determine the correct concentrations and times.

*** Follow the instructions from the ultrasound bath's manufacturer to determine the correct temperature, concentration and times.

Sterilisation instructions for steam autoclave

Applicable to orthodontic implants, abutments, and surgical and prosthetic instruments and boxes.

1. Introduce each material separately in individual sterilisation bags, then seal the bags. For joint sterilisation, place the instruments in their surgical box, introduce the box into a sterilisation bag and seal the bag.
2. Place the bags to be sterilised in the autoclave.
3. Sterilise in a steam autoclave at 134°C/273°F (max. 137°C/276°F) for 4 min (minimum) and at 2 atm. Torque wrenches must be sterilised in 3 vacuum cycles at 132°C/270°F for a minimum of 1.5 minutes and vacuum-dried for a minimum of 20 minutes.

For the United States only: The validated and recommended sterilisation cycle for the US must be performed in a steam autoclave at 132°C/270°F for at least 15 min and with the drying time of at least 15 - 30 min.

IMPORTANT

Make sure the drying stage is allowed to run to completion, otherwise the products may be damp.

Check the sterilisation equipment if the materials or sterilisation bags are damp at the end of the sterilisation cycle.

Perform the necessary maintenance actions on the autoclave according to the established periodicity and following the manufacturer's instructions.



Storage of Ziacom® products

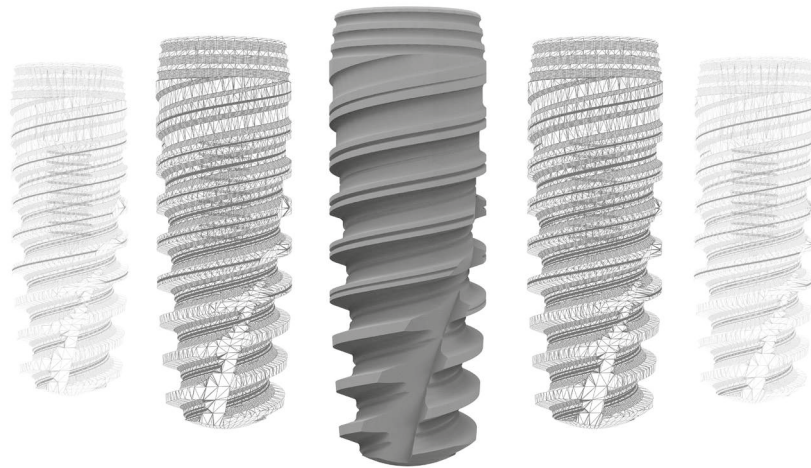
- Store the products in their original packaging and in a clean, dry location until they are used.
- After sterilisation, keep the products in the sealed sterilisation bags and in a clean, dry location.
- Never exceed the use by date indicated by the manufacturer of the sterilisation bags.
- Always follow the indications of the manufacturer of the sterilisation bags.

General recommendations

- Never use damaged or dirty material; never reuse single-use products. The user is responsible for following the instructions described in this document correctly.
- The attention to piercing or sharp elements. Gloves should be worn when cleaning the materials to avoid accidents during handling.
- Follow the safety instructions indicated by the manufacturer of the disinfectant agent.
- The product's sterility cannot be guaranteed if the sterilisation bag is open, damaged or damp.
- Respect all stages of the sterilisation process. If the materials or sterilisation bags contain traces of water or moisture, check the autoclave and repeat the sterilisation.
- Orthodontic abutments and implants are supplied UNSTERILISED and must always be sterilised before use.
- Instruments and surgical and prosthetic boxes are supplied UNSTERILISED and must always be sterilised before use and cleaned and disinfected after use.
- The sterilisation, cleaning and disinfection processes gradually deteriorate the instruments. Inspect the instruments thoroughly to detect any signs of deterioration.
- Avoid contact between products made from different materials (steel, titanium, etc.) during the cleaning, disinfection and sterilisation processes.
- Ziacom Medical SL recommends these instructions are implemented for the correct maintenance and safety of their products; accordingly, the company refuses any liability for any damage to the products that could arise if the user applies alternative cleaning, disinfection and sterilisation procedures.

See www.ziacom.com/biblioteca for the latest version of the cleaning, disinfection and sterilisation instructions.





See the latest version of the general conditions of sale on our website www.ziacom.com.

Check the availability of each product in your country.

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