TitanFit/Plastic, GoldFit/Plastic, CoCrFit/Plastic (UCLA) Abutments

INSTRUCTIONS FOR USE

Intended Use / Indications
TitanFit/Plastic, GoldFit/Plastic, CoCrFit/Plastic (UCLA) Abutments are intended for use in conjunction with Adin implants in partially or fully edentulous mandibles and maxillae, in support of single-unit or multiple-unit screw-retained or cement-retained restorations. Engaging UCLA abutments are intended for single tooth screw-retained and cement-retained crowns as well as for multiple unit cement-retained implant bridges. Conical Connection 3.0 and 2.75 are intended to be used together with Touareg CloseFit™ NP 3.0 or UNP 2.75 implants to replace a single lateral incisor in the maxilla or central or lateral incisor in the mandible.

The screw-retained solution may be used when the screw access hole is located through the occlusal surface or through the cingulum. Non-Engaging UCLA abutments are intended for screw retained multiple teeth prostheses. This screw retained solution is mainly indicated when the screw access hole are located through the occlusal surface or through the cingulum as well as for limited inter occlusal space. Indicated for implants with less than 40° overall divergences to allow path of insertion.

Description
The TitanFit/Plastic, GoldFit/Plastic, CoCrFit/Plastic (UCLA) Abutments are used for prosthetic restorations prepared by dental technicians in the dental laboratory. The UCLA abutments are an implant abutment that consists of a cast-on Titanium, Gold or CoCr alloy base and a fully burn-out plastic (POM) sleeve. The laboratory processing of the UCLA abutments utilizes the cast-on technique. During casting, the Titanium, Gold or CoCr portion is suffused on the proposed contact areas by melting of the cast-on alloy. Metallic joint is obtained thanks to the retention of the grooves of the Titanium, Gold or CoCr base and the suffused metal.

Adin UCLA Abutments are designed for use with two-piece Adin implants to provide support and retention for a single or multi-unit (splinted) screw-retained restorations in the mandible or maxilla. The system consists of the abutment, abutment screw, and a plastic modeling aid.

Materials
Abutment Bases:
- TitanFit- Titanium alloy: Titanium- 90%, Aluminum- 6%, Vanadium- 4% (Ti 6Al-4V ELI), which conforms to ASTM F136 and ISO 5832-3
- GoldFit- Gold Alloy: 58% Au, 10% Pt, 31% Pd, 1% Ir
- CoCrFit- CoCr alloy: Cobalt- max. 60%, Chromium- 26-30%, Molybdenum- 5-7%, which conforms to ISO 5832-12 and ASTM F1537

Plastic Sleeve: POM

Abutment Screw: Titanium alloy: Titanium -90%, Aluminum -6%, Vanadium - 4% (Ti 6Al-4V ELI), which conforms to ASTM F136 and ISO 5832-3

Contraindications
It is contraindicated placing abutments in the following cases:
- In patients that are medically unfit for oral surgical procedures.
- In cases in which safe support of functional loads cannot be achieved.

Do not use in cases of hypersensitivity to one or more of the metals contained in the alloy. It is contraindicated to use UCLA Engaging Conical Connection NP 3.0 or UNP 2.75 in other positions than for lateral incisors in the maxilla or central and/or lateral incisors in the mandible. UCLA Engaging Conical Connection NP 3.0 or UNP 2.75 should not be used for multiple unit restorations.

Warnings
Dental implant surgery and the restoration of implants involves complex dental procedures that are not without risk. It is the obligation of the clinician to inform the patient about the nature and risk(s) of the procedure(s). Achievement of a satisfactory outcome requires appropriate education and training. Improper technique and/or inadequate training can lead to implant failure and/or loss of supportive bone. Dental implants and prosthetics systems may only be used by dentists or physicians who have had appropriate education and training. Adin strongly recommends that clinicians, new as well as experienced implant users, attend special training before undertaking a new treatment method. Adin offers a wide range of courses for various levels of knowledge.

For more information regarding courses visit www.adin-implants.com. Always work with an experienced colleague the first time you employ a new treatment method. Adin has a global network of mentors for this purpose. Proper clinical and radiographic evaluation of the patient should be performed prior to any implant placement. Implants can break in function for any number of reasons. It is important that the clinician use an adequate number of implants in order to provide support to, and distribute the load between, the abutments. Implants should not be placed if there is not sufficient alveolar bone width and height to surround and sustain the implant. Due to the small size of prosthetic components, special care must be taken to ensure that they are not swallowed or aspirated by the patient.

For Laboratory Technician: Do not inhale dust and vapors when machining. Ensure suitable air extraction/ventilation at the workplace and corresponding machinery

Side effects:
The potential exists for allergies to the metals contained in the alloy.

Interactions:
Avoid occlusal and approximal contact between different alloy types. Do not use any solutions to remove investment material after casting. These solutions can attack the gold, titanium or cobalt chrome alloys and can damage the abutment.

Recommended Torque (Ncm)

<table>
<thead>
<tr>
<th>Prosthetic device</th>
<th>UNP</th>
<th>NP</th>
<th>RP</th>
<th>WP</th>
<th>RS</th>
</tr>
</thead>
<tbody>
<tr>
<td>UCLA Abutment</td>
<td>25</td>
<td>35</td>
<td>35</td>
<td>35</td>
<td>35</td>
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</tbody>
</table>

Caution: Don’t exceed the recommended prosthetic tightening torque for abutment screws. Over tightening of abutment may lead to a screw fracture.

Connect the abutment to the Implant and tighten the Retaining Screw using Star (for Touareg CloseFit family) or Hex (for Implants with RS connection) screw-driver, according to the following table:

<table>
<thead>
<tr>
<th>Implant System</th>
<th>Platform Connection</th>
<th>Compatible TitanFit/Plastic, GoldFit/Plastic, CoCrFit/Plastic (UCLA) Abutment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Touareg™</td>
<td>RS (Regular Standard Internal Hex)</td>
<td>RS3095 - RS Engaging Titanium/Plastic Abutment</td>
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<tr>
<td></td>
<td></td>
<td>RS3097 - RS Non-Engaging Titanium/Plastic Abutment</td>
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<tr>
<td></td>
<td></td>
<td>RS3090 - RS Engaging Gold/Plastic Abutment</td>
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<td></td>
<td></td>
<td>RS3094 - RS Engaging Cobalt Chrome/Plastic Abutment</td>
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<tr>
<td></td>
<td></td>
<td>RS3100 - RS Non-Engaging Cobalt Chrome/Plastic Abutment</td>
</tr>
<tr>
<td>Touareg™</td>
<td>UNP (Conical Hex Connection)</td>
<td>UNP3094 - UNP Engaging Cobalt Chrome/Plastic Abutment</td>
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<tr>
<td></td>
<td></td>
<td>UNP3100 - UNP Non-Engaging Cobalt Chrome/Plastic Abutment</td>
</tr>
<tr>
<td>Touareg™</td>
<td>NP (Conical Hex Connection)</td>
<td>NP3095 - NP Engaging Titanium/Plastic Abutment</td>
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<td></td>
<td></td>
<td>NP3097 - NP Non-Engaging Titanium/Plastic Abutment</td>
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<tr>
<td></td>
<td></td>
<td>NP0060 - NP Engaging Gold/Plastic Abutment</td>
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<td></td>
<td></td>
<td>NP0061 - NP Non-Engaging Gold/Plastic Abutment</td>
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<tr>
<td></td>
<td></td>
<td>NP3094 - NP Engaging Cobalt Chrome/Plastic Abutment</td>
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<tr>
<td></td>
<td></td>
<td>NP3100 - NP Non-Engaging Cobalt Chrome/Plastic Abutment</td>
</tr>
<tr>
<td>Touareg™</td>
<td>WP (Conical Hex Connection)</td>
<td>WP3095 - WP Engaging Titanium/Plastic Abutment</td>
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<td></td>
<td></td>
<td>WP3097 - WP Non-Engaging Titanium/Plastic Abutment</td>
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<td></td>
<td></td>
<td>WP0082 - WP Engaging Gold/Plastic Abutment</td>
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<td>WP0083 - WP Non-Engaging Gold/Plastic Abutment</td>
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<td>WP3094 - WP Engaging Cobalt Chrome/Plastic Abutment</td>
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<tr>
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<td></td>
<td>WP3100 - WP Non-Engaging Cobalt Chrome/Plastic Abutment</td>
</tr>
</tbody>
</table>
Packaging
Each Abutment is packaged together with an Abutment Screw to allow the clinician to have the components required for clinical use. Abutments are provided in a non-sterile state and are intended for single use only. For cleaning / sterilization / disinfection of final restoration, please refer to crown material manufacturer instructions. Use of non-sterile abutments may lead to infection of tissues or infectious diseases. Do not reuse Abutments and Abutment Screws. Reuse of these components will lead to an increased risk for product failure as functionality cannot be guaranteed if these products are reused. In addition, there is an increased risk of contamination.

Storage
Store at room temperature.

Processing at laboratory for TitanFit
Directions for CEMENTED restorations on custom abutments fabricated using Adin TitanFit™ abutments:
1. Wax UCLA abutment in usual fashion.
2. After completion of waxing, all titanium mating surfaces must be cleaned with a wax solvent to remove any residual wax.
3. Set burnout temperature at maximum 760°C/1400°F.
4. Keep ring at burnout temperature for ONE HOUR MAXIMUM.
5. Do not overheat metal and rings as it will create porosity on the titanium bases.
6. Use type 2 Gold alloy.
   Do not use non-precious alloys.
7. Alternatively use a high noble or semi-precious crown and bridge alloy.
8. Cast in the same fashion as regular gold alloys.
9. For removal of investment residue use dry glass beads only and steam the casting (NO DEGASSING OR PICKLING WITH ANY SOLUTION).
Directions for Screw Retained Direct Porcelain Crowns on Titanfit™ Abutments:
1. Wax abutment in usual fashion.
2. After completion of waxing, all titanium mating surfaces must be cleaned with a wax solvent to remove any residual wax.
3. Set burnout temperature at maximum 760°C/1400°F.
4. Keep ring at burnout temperature for ONE HOUR MAXIMUM.
5. Do not overheat metal and rings as it will create porosity on the titanium bases.
6. Use Type 2 Gold alloy.
   Do not use non-precious alloys.
7. Alternatively use a high noble or semi-precious crown and bridge alloy.
8. Cast in the same fashion as regular gold alloys.
9. For removal of investment residue use dry glass beads only and steam the casting (NO DEGASSING OR PICKLING WITH ANY SOLUTION).
10. The final temperature of 748°C/1378°F should be kept for only one minute.

Processing at Clinic and laboratory for GoldFit
Handling Procedures for Clinical Procedures
1. Place the impression coping implant level onto the implant and take an implant level impression.
2. Connect the healing abutment or temporary restoration.

Laboratory Procedure
3. Assemble the impression coping and implant replica and position into impression.
4. Fabricate a working model with removable gingival material.
5. Attach the GoldFit™ implant replica and secure with lab screw.
6. Connect abutment and reduce the plastic sleeve to appropriate height and wax-up a framework.
7. Fabricate the final abutment or framework using standard C&B techniques.
   Note: Do not sandblast the seating surfaces.

Clinical Procedure
8a. For single units: Connect the customized abutment. It is recommended to verify the final abutment seating using radiographic imaging.
8b. For multiple units: Connect the customized but there will be a limit, and it can depend on the specific abutment design.
9. Tighten the customized abutment(s) or implant bridge/bar abutment to 35 Ncm using Star (for Touareg CloseFit™ family) or Hex (for all other implants) Scredriver. Caution: Over tightening of abutment may lead to a screw fracture.
10. Close screw access hole.
11. For Abutments: Cement final restoration if applicable.

Note:
Do not use temporary cement when cementing ceramic crowns and bridges, due to increased risk of micro fractures.
If the prosthesis metal substructure is made of gold alloy, it should have a high gold content.

Alloy Recommendations
The solidus of the gold alloy is 1450°C / 2642°F. It is recommended to use a cast-on temperature of 1390°C/2534°F. A wax burn out temperature of 700–800°C/1292–1472°F, cast on gold alloy at approximately 1390°C/2534°F (torch melted), and then use a porcelain firing temperature of 980°C. Note that the cast-on temperature can impact distortion and softening of any abutment alloy. Adin gold alloy is designed to limit both of these, but there will be a limit, and it can depend on the specific abutment design.

Note: The GoldFit™ abutment alloy is designed for PFM (or C&B) alloys to be cast on it. It is not designed to have porcelain fired directly to it. All other instructions would be based on the specific cast-on alloy, and porcelain to be used.

Processing at laboratory for CoCrFit
1. The abutment must be carefully hand-tightened into the lab analog with an Abutment Retaining Screw.
2. Create a wax-collar of at least 0.3 mm thickness above the metal indexing feature of the base. It prevent cracks in ceramic layer.
3. Before placing casting sprues the metal base should be cleaned with a cotton swab and alcohol.
4. Casting sprues should be placed possibly in the long axis of the crown to avoid the bubble concentration inside the construction.
5. The investment should freely pass through the screw channel. The elements need to be placed away from casting ring heating center.
6. While setting the sprue, ensure correct positioning of the wax up casting object in the casting ring.
7. The metal tube of the abutment should not be placed too close to the wall or floor of the ring to prevent heat removal (cooling vents).
8. The use of speed investment is not recommended.
9. The investment expansion should be adjusted to zero expansion.
10. Make sure that the investment is free of air bubbles.
11. Heat parameters need to be tuned as for conventional CoCr casting to avoid any imperfections in the construction. Too rapid cooling of the metal tube can lead to defective casts.

Observe the instructions of the investment material manufacturer. To ensure full casting, the final temperature during preheating of the casting muffle must be at least 950 °C. The final temperature should be held for 30 to 60 minutes according to the size of the casting ring.

12. To prevent stresses in the cast structure resulting from too rapid cooling, cool the casting muffle at room temperature. It is better to deflask the casting mould using an acid bath in an ultra sound cleaner. Sandblasting can damage the settlement. During neck polishing the connection surface needs to be covered with the analogue: this prevents any damage to the settlement part. If working with cemented restorations, you should develop crown and bridge frameworks on the abutments in the same way as for periodontic restorations.

Following laboratory processing abutment with crown should be processed in accordance with crown material manufacturer instructions.

Explanation of Pictograms

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