PROSTHETIC OPTIONS FOR
NARROW NECK IMPLANTS
CONTENTS

1. Introduction 2
2. System overview 3
3. Product overview 4
4. Restorative procedures for the Narrow Neck implant 6
   Fabrication of a provisional 6
   Impression procedure 7
   NN titanium coping – laboratory procedure 8
   Placement of final restoration 9
   NN cast-on gold coping – laboratory procedure 10
INTRODUCTION

The objective in the development of the Standard Plus implant Ø 3.3 mm Narrow Neck was to create ideal conditions for the treatment of small single-tooth gaps in the anterior upper and lower jaws.

The one-part Narrow Neck implant has a built-in octa abutment (with a height of 1.5 mm) and a reduced shoulder width of 3.5 mm, which provides a solid base for narrow prosthetic abutment copings. As part of the Standard Plus system, the Narrow Neck implant has a smooth collar height of 1.8 mm to meet high esthetic expectations.

SYSTEM OVERVIEW

Prosthetics

<table>
<thead>
<tr>
<th>Narrow Neck Ø 3.5 mm</th>
</tr>
</thead>
</table>

Surfaces

SLA® and SLActive™

Transfer parts

048.016 048.1224 048.130

Prosthetic restoration

screw-retained or cement-retained

Case planning

048.9354 048.9364 048.9374

Temporary restorations/protective caps

048.043 048.050 048.374* 048.374*

Titanium copings

048.505 048.550 048.551

Gold copings

048.500 048.631

Auxiliary parts/screws

049.177

* Requires the hexagonal screwdriver (048.621)
**Transfer and cast fabrication**

NN impression cap with snap-on fit (for closed tray)
- **Plastic**
  - Precise impression procedure, saves time, simple handling
- **SCS configuration**
  - Secure transfer to the implant

NN impression cap with integral screw (for open tray)
- **Aluminum/titanium**
  - Precise impression procedure, simple handling
- **SCS configuration**
  - Secure transfer to the implant

NN analog
- **Stainless steel**
  - Precise impression procedure, saves time, simple handling
- **SCS configuration**
  - Secure transfer to the implant

**Prosthetics**

NN titanium coping*
- **Grade 4 titanium**
  - Increased strength
  - Design: Shoulder and height can be modified. 
    - As a screw-retained base for cement-retained crowns
    - For the direct application of acrylic veneering materials (not suitable for ceramic veneering)
- **Height**: 9.0 mm with a 3.0 mm tissue cuff

NN 15°/20° angled titanium copings*
- **Grade 4 titanium**
  - Increased strength
- **Design**: Shoulder and height can be modified. 
  - As a screw-retained base for cement-retained crowns
  - For the direct application of ceramic materials (not suitable for ceramic veneering)
- **Height**: 9.0 mm

NN framework blank*
- **Metal ceramic alloy**
  - ESTETICOR®
  - COSMOR H
  - Can be trimmed for the direct application of ceramic materials
  - Design: For screw-retained crowns.
- **Height**: 9.0 mm

NN cast-on gold coping
- **Cast-on alloy**
  - CERAMICOR®/burn-out plastic
  - Non-oxidizing, high-melting, for the cast-on technique with precious metal alloy.
  - Design: For screw-retained and cement-retained crowns.
- **Height**: 10.0 mm

NN occlusal screw
- **Titanium alloy**
  - Ti-6Al-7Nb anodized
  - **Tightening torque**: 35 Ncm
  - Provides for a stable connection
- **Pale yellow color**
  - Clear distinction from the standard occlusal screw
- **Thread**: Ø 1.8 mm

NN = Narrow Neck (Ø 3.5 mm restorative platform)

*Important note:
These components cannot be cast onto.
Fabrication of a provisional

Although the healing or protective cap can remain in place throughout the entire healing phase, some cases may require placement of a custom provisional in order to achieve an esthetic gingival architecture.

An acrylic provisional can be created and placed over the NN titanium coping.

The screw access hole must be blocked out prior to using the reline material.

For direct bonding of facing materials to the NN titanium abutment coping, it is advisable to roughen the surface and use a bonding agent.

The modified coping is then secured onto an NN analog with an NN occlusal screw. A preformed acrylic tooth can be relined over the prepared coping.

The screw aperture must be sealed before adding the facing.

Use temporary cement to secure the provisional crown on the prepared coping.

Impression procedure

Once the provisional is removed, it reveals the mature scalloped gingiva.

An impression cap is chosen and then seated. In this case, an open tray technique was used. The NN metal impression cap (048.016) is screwed into place using an SCS screwdriver. A plastic NN snap-on impression cap (048.122V4) for a closed tray technique is also available.

The impression (with the impression cap picked up) is sent to the lab.

The impression is taken using an elastomeric impression material.

The metal impression cap screwed into place.

The impression cap with integral screw.

The copings is prepped in the mouth.

The copings is prepped in the mouth.

Remove healing cap with an SCS screwdriver.
**Laboratory procedure**

When the dental laboratory receives the impression from the doctor, the NN analog is secured onto the impression cap by screwing it into place with an SCS screwdriver (or it snaps into place if the plastic snap-on impression cap is used).

The working cast is fabricated in the usual way from resin stone, Type 4 (DIN 13911).

In this case, the titanium coping (048.505) for cement-retained restorations was used.

The appropriate coping is then chosen. For this, the plastic NN PLAN copings can be used as “try-ins” on the model to facilitate selection of prosthetic components. The NN PLAN copings are included in the prosthetic planning kit (048.901).

A flatwall/groove must be made on the coping to ensure anti-rotation (walls must not be less than 0.3 mm thick). The coping is modified/customized and the restoration is fabricated using conventional laboratory procedures.

The coping is prepped.

**Placement of final restoration**

An NN occlusal screw is used to secure the NN titanium coping onto the implant. It is then torqued to 33 Ncm with an SCS screwdriver (in combination with the ratchet 046.119 and torque control device 046.049).

The screw access hole is blocked out and the crown is cemented into place with permanent cement.

Clinical photos courtesy of Robert Vogel, DDS/USA

Also see the CD-ROM: “Straumann® Dental Implant System – Prosthetics" (USADV 022). Refer to the section “Cemented single tooth restoration with the angled NN titanium abutment.”
The NN cast-on gold coping consists of a non-oxidizing, high-fusion alloy (Ceramicor®: Au 60%, Pt 19%, Pd 20%, Ir 1%; melting temperature range 1400°–1490°C/2552°–2714°F). With this coping, a modeling aid made of burn-out plastic is already attached. If required, the modeling aid can be individually shortened occlusally.

1. Initial situation for the fabrication of a PFM crown for tooth 32 (ADA 23). For optimal reproduction of the gingiva, it is recommended that a gingival mask be fabricated on the plaster cast.

2. The cast is used to produce a wax-up and silicone index, with which the spacing is later checked when modeling the crown, and which can assist in the process of molding the porcelain veneer.

3. The gold coping is screwed onto the analog with the occlusal screw.

4. The framework is modeled to the tooth shape with reduced dimensions, according to the rules of the veneering technique. As the prefabricated gold coping is made of a non-oxidizing alloy, it is important to ensure that the parts to which the porcelain veneer will later be applied are covered with a layer of wax at least 0.7 mm thick during modeling.

Tip: Never cast without a modeling aid, as otherwise the PFM alloy will flow out too thinly, or not at all, at the upper edge of the coping (screw seat on the coping) and there is a danger of crack formation in the ceramic material as a result of different heat expansion coefficients. The modeling aid also has the function of ensuring a cleanly finished screw channel with sharp edges.

Tip: Do not use wetting agents if possible. The fine film of the wax wetting agent on the surface of the Ceramicor® during casting can result in metal on the 45° shoulder or in the interior. Wetting agent residues can lead to reactions with the investment material and casting errors. Use of a cotton pellet soaked in alcohol is recommended to clean the interior and edge of Ceramicor® components to remove wax particles and insulating agents to prevent overflow of cast-on alloy on to the delicate circular edge and interior.

5. The silicone index fabricated with the help of the wax-up is used to check that the framework has been formed correctly.
6 Pins and base are applied to the finished framework. The use of investment materials designed for the rapid heating procedure (speed investment materials) is not recommended. Casting is performed with precious metal alloys. The casting temperature must be below 1250°C/2282°F.

7 Suitable means of devesting include ultrasound, a water jet, pickling, or a glass-fiber brush. Never use sand-blasting for devestment! Sandblasting will damage the interior configuration (octagon) and coping edge, which causes a loss of precision in the form of inadequate accuracy of fit.

8 The framework is finished, taking care not to grind through the cast-on alloy, as the gold coping is made of a non-oxidizing alloy to which a porcelain veneer cannot be applied (the thickness of the cast-on alloy must be at least 0.5 mm).

9 Before veneering, the framework is checked on the cast, with the help of the silicone index, to ensure that the dimensions are optimal.

10 To prevent the veneering porcelain from cracking or chipping in the area of the cervical margin, the framework should be left unveneered around the circumference in this area (approximately 0.3 to 0.4 mm).

11 After final firing, the crown is ready for attachment. It is screwed tight on the implant with the NN occlusal screw, applying a torque of 35 Ncm using an SCS screwdriver together with the ratchet and torque control device.
Disclaimer of liability

The Straumann® dental implant is part of an overall concept and may only be used in conjunction with the associated original components and instruments according to Institut Straumann AG’s instructions and recommendations. Use of products made by third parties in conjunction with the Straumann® Dental Implant System will void any warranty or other obligation, expressed or implied, of Straumann. Instruction as to application of our products takes place verbally, in writing, by electronic media, or in hand-on training corresponding to state-of-the-art at the time of introduction of the product. The user of Straumann products has the duty to determine whether or not any product is suitable for a particular patient and circumstance. Straumann disclaims any liability, expressed or implied, and shall have no responsibility for any direct, indirect, punitive or other damages, arising out of, or in connection, with any errors in professional judgment or practice in the use or installation of Straumann products.

The user is also obliged to study the latest developments of the Straumann® Dental Implant System and its applications regularly.

Please note

The descriptions given are insufficient to allow immediate use of the Straumann® Dental Implant System. Guidance in the handling of these instruments by a doctor experienced in their use is strongly recommended.

Validity

Upon publication of this brochure, all previous versions are superseded.

Availability

Not all products listed in this brochure are available in all countries.

Caution

Our products must be secured against aspiration when used intraorally (e.g., use of a throat pack is recommended).

Federal law restricts these devices to sale by, or on the order of, a dentist or physician.

Units per package

Unless stated otherwise, there is one unit in each package.

Documentation

You can obtain detailed instructions on the Straumann® Dental Implant System from your Straumann representative.

Definition

SLA® = Sand-blasted, Large grit, Acid-etched

SLActive® = Sand-blasted, Large grit, Acid-etched, chemically active and hydrophilic.

Copyright and trademarks

Straumann documents may not be reprinted or published, in whole or part, without the written authorization of Institut Straumann AG. Straumann® Dental Implant System, SLA®, and synOcta® are registered trademarks of Institut Straumann AG, Switzerland.

Explanation of the symbols on labels and instruction leaflets

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lot/Batch number</td>
<td>Lot/batch number</td>
</tr>
<tr>
<td>Article number</td>
<td>Article number</td>
</tr>
<tr>
<td>Sterile by gamma irradiation</td>
<td>Sterile by gamma irradiation</td>
</tr>
<tr>
<td>Non-sterile</td>
<td>Non-sterile</td>
</tr>
<tr>
<td>Upper temperature limit</td>
<td>Upper temperature limit</td>
</tr>
<tr>
<td>Temperature limitation</td>
<td>Temperature limitation</td>
</tr>
<tr>
<td>Caution: Federal (USA) law restricts these devices to sale by, or on the order of, a dentist or physician</td>
<td>Caution: Federal (USA) law restricts these devices to sale by, or on the order of, a dentist or physician</td>
</tr>
<tr>
<td>Do not use on patients</td>
<td>Do not use on patients</td>
</tr>
<tr>
<td>Do not re-use</td>
<td>Do not re-use</td>
</tr>
<tr>
<td>Refer to instructions for use</td>
<td>Refer to instructions for use</td>
</tr>
<tr>
<td>Use before expiration date</td>
<td>Use before expiration date</td>
</tr>
<tr>
<td>Protect from exposure to strong light or heat</td>
<td>Protect from exposure to strong light or heat</td>
</tr>
</tbody>
</table>

Steinmann products carry the CE mark and fulfill the requirements of the Medical Devices Directive 93/42 EEC.

Colored warning labels

- **YELLOW** - Caution: Indicates hazards or unsafe handling that might cause minor injury or damage to property.
- **ORANGE** - Warning: Indicates hazards that might cause serious or fatal injury.
- **RED** - Danger: Indicates hazards that might cause immediate serious or fatal injury.