### Standard Plus Implant

The Straumann® Standard Plus (SP) Implant is a Soft Tissue Level Implant with a smooth neck section of 1.8 mm. Standard Plus Implants can be used for trans- or submucosal healing.

We recommend Straumann® Smart users to let the implant heal transmucosally. In this classic one-stage surgical procedure, the implant is not covered with soft tissue during the healing phase, but the soft tissue is sutured around the Healing Cap. This provides a less invasive and time-saving treatment on your patients by avoiding a second surgical intervention.

Standard Plus Implants are available with a Regular Neck (RN) and Wide Neck (WN) prosthetic platform.

<table>
<thead>
<tr>
<th>Connection types</th>
<th>RN: Regular Neck Ø 4.8 mm</th>
<th>WN: Wide Neck Ø 6.5 mm</th>
</tr>
</thead>
</table>

### Implant-abutment connection

Straumann® Standard Plus (RN/WN) Implants feature the Straumann® synOcta® connection. This implant-abutment connection was introduced worldwide in 1999 and applies the well-known Morse taper design principle developed in 1986. The 8° Morse taper allows for an improved force distribution and precise friction fit of the abutments resulting in a reduced risk of fractures or abutment loosening. The internal octagon facilitates the repositioning of the prosthetic parts.
Endosteal implant diameters and color code
Standard Plus Implants with the Regular Neck (RN) and Wide Neck (WN) platform are available in three endosteal diameters: ∅ 3.3 mm, ∅ 4.1 mm, and ∅ 4.8 mm. A unified color code simplifies identification of instruments and implants.

<table>
<thead>
<tr>
<th>Color coding</th>
<th>Endosteal implant diameter 3.3 mm</th>
<th>Endosteal implant diameter 4.1 mm</th>
<th>Endosteal implant diameter 4.8 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>yellow</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>red</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>green</td>
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<td></td>
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</tbody>
</table>

Thread pitch
The thread pitch on the Standard Plus (RN/WN) Implants measures 1 mm for the ∅ 3.3 mm implants, and 1.25 mm for the ∅ 4.1 mm and ∅ 4.8 mm implants.

Implant lengths
Straumann® Standard Plus (RN/WN) Implants are available in lengths of 6, 8, 10, 12 and 14 mm. The availability of the 6 mm SP Implant depends on the implant diameter and the implant material.

Implant materials
Straumann® Standard Plus (RN/WN) Implants are offered in two different materials – Straumann® Roxolid® and Titanium Grade 4.

Straumann® Roxolid® is a metal alloy composed of 15 % zirconium and 85 % titanium. The combination of these two metals leads to an implant material with a higher tensile and fatigue strength than comparable titanium implants have¹,².

Mechanical tests have proven that Roxolid® is actually stronger than Titanium Grade 4. The unique implant material combines high mechanical strength with excellent osteoconductivity. Thanks to their outstanding biological and mechanical properties, Roxolid® Implants offer more treatment options than conventional titanium implants³,⁴.
Implant surfaces
Strauumann® Standard Plus (RN/WN) Implants are offered with two different implant surfaces – SLA® and SLActive®.

1. SLA® surface

The Straumann® SLA® surface is one of the most documented rough surfaces in implantology. The SLA® surface is produced using a technique that generates a macro-roughness on the implant surface followed by etching that superposes a micro-roughness. The resulting topography offers an ideal structure for cell attachment.
The longevity of Straumann® Soft Tissue Level Implants with the SLA® surface has been demonstrated in a long-term study. The following outstanding 10-year results on the SLA® surface were shown⁷,⁸:

- Unchanged survival rate: in the examined 23 patients, no implants were lost between years 5 and 10
- No statistically significant bone loss occurred between 5 and 10 years
- Prosthesis survival of 96 %
- No signs of peri-implantitis were noted at 10 years
- Patient satisfaction was high

2. SLActive® surface

The Straumann® SLActive® surface is based on the scientifically proven SLA® topography.
In addition, it has a fundamentally improved hydrophilic surface chemistry. SLActive® significantly accelerates the osseointegration process in the early healing phase (weeks 2-4) and delivers everything you expect from a successful and patient-friendly implant treatment.

**Benefits:**
- Safer and faster treatment in 3-4 weeks for all indications\(^{10-19}\)
- Reduced healing times from 6-8 weeks down to 3-4 weeks\(^{15,19-23}\)
- Increased treatment predictability in critical protocols\(^{24}\)
Most early implant failures occur in the critical healing period between weeks 2 and 4 after implant placement\textsuperscript{17}. Although similar healing patterns were observed for both SLA\textsuperscript{®} and SLActive\textsuperscript{®} Implants, bone-to-implant contact (BIC) was greater after 2 weeks and significantly greater after 4 weeks for SLActive\textsuperscript{®} (p-value < 0.05)\textsuperscript{16}.

With the chemically active and hydrophilic SLActive\textsuperscript{®} surface Straumann has established a new standard in oral implantology.
**Loxim™ Transfer Piece**

Straumann® Standard Plus (RN/WN) Implants are delivered with the Loxim™ Transfer Piece, which is connected to the implant with a snap-in mounting. Its design offers various great features and benefits.

**Pre-mounted Loxim™ Transfer Piece for ease of use**
- Secures transport into mouth

**Self-retaining**
- Detaches with adapter after implant insertion

**Small diameter/short**
- Easy access to narrow interdental spaces and the posterior region
- Clockwise and counterclockwise turns
- Integrated extraction function in case of implant removal (only during implant insertion)

**Alignment Pin**
- Can be re-inserted into the implant
- Alignment in multiple implant situations

**Restoration-safe torque stop**
- Pre-determined breaking point protects implant connection from a higher than recommended insertion torque
- Designed for ease of implant restoration
### Recommended use of SP RN/WN Implants for Straumann® Smart cases

Chart of minimum widths of bone for planning which SP (RN/WN) Implant to use

<table>
<thead>
<tr>
<th>Implant type (endosteal diameter)</th>
<th>Shoulder diameter (mm)</th>
<th>Interproximal distance at bone level (mm)</th>
<th>Bucco-lingual or bucco-palatal width of bone (mm)</th>
<th>Recommended use for Straumann® Smart cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>SP Ø 3.3 mm RN</td>
<td>4.8</td>
<td>6.5</td>
<td>5.5</td>
<td>For narrow interdental spaces and narrow partial or fully edentulous bone ridges. <strong>Caution/Precaution:</strong> Small-diameter implants are not recommended for the posterior region. <strong>Specific indications for Titanium SLA® Ø 3.3 mm Standard Plus RN Implants:</strong> These implants are to be used only in cases for the following indications: - Partially dentate jaws with implant-borne, fixed constructions: Combine with implants Ø 4.1 mm and splint the suprastructure.</td>
</tr>
<tr>
<td>SP Ø 4.1 mm RN</td>
<td>4.8</td>
<td>7</td>
<td>6</td>
<td>For use in the maxilla and mandible, for restoration of partial or fully edentulous patients.</td>
</tr>
<tr>
<td>SP Ø 4.8 mm RN</td>
<td>4.8</td>
<td>8</td>
<td>7</td>
<td>For use in the maxilla and mandible, for restoration of partial or fully edentulous patients in wide interdental spaces and bony ridges.</td>
</tr>
<tr>
<td>SP Ø 4.8 mm WN</td>
<td>6.5</td>
<td>8</td>
<td>7</td>
<td></td>
</tr>
</tbody>
</table>

**Caution/Precaution:**

Always select the largest-diameter implant that can be supported by the available bone thickness, bone quality, interdental spacing, and anticipated mastication forces.
Smart Product Descriptions

Summary

Flexible and reliable with the synOcta® connection
- The internal octagon: Secure and flexible (re)positioning of individual abutments in the implant
- Morse taper connection: Uniform load distribution and reliable, stable implant-to-abutment joints prevent rotation

Take advantage of the easy accessibility to the implant by working at soft tissue level
- Lean prosthetic portfolio supported by the implant design
- Simple impression-taking and abutment placement thanks to the connection at soft tissue level

Innovative surfaces
- SLA®, the reliable and scientifically well-documented surface, with predictable long-term clinical data⁷,⁸
- SLActive®, the next generation in implant surface technology reduces the critical healing period down to 3-4 weeks¹⁸ and minimizes the potential for early implant failure

Optimized crestal bone preservation with Bone Control Design™
- Respects the biological distance/width
- Optimal position of smooth and rough surface interface
- Microgap control
- Biomechanical implant design
- Implant surface osteoconductivity

Well-proven new materials
- Titanium Grade 4
- Roxolid®: A titanium-zirconium alloy stronger than titanium⁵,⁶ and specifically designed for the use in dental implantology
REFERENCES

2. Data on file
5. Norm ASTM F67 (states min. tensile strength of annealed titanium).
12. Maniura K : Laboratory for Materials – Biology Interactions Empa, St. Gallen, Switzerland Protein and blood adsorption on Ti and TiZr implants as a model for osseointegration. EAO 22nd Annual Scientific Meeting, October 17 – 19 2013, Dublin.
DISCLAIMER

Straumann® Smart is a blended training and education program focused on the education of general dentists who want to become surgically active in the field of dental implantology. The program is limited to information pertaining to straightforward implant cases and focuses on a reduced portfolio of products that are suitable for the treatment of such cases.

All clinical Straumann® Smart content – such as texts, medical record forms, pictures and videos – was created in collaboration with Prof. Dr. Christoph Hämmerle, Prof. Dr. Ronald Jung, Dr. Francine Brandenberg-Lustenberger and Dr. Alain Fontolliet from the University of Zürich, Clinic for Fixed and Removable Prosthodontics and Dental Material Science, Switzerland.

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