

# Straumann® Screw Retained Bridge/Bar

## Design Guideline for 3Shape

Release Date

October 2025



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## 1. General Information

To be able to create and order an Implant Bridge or Bar (SRBB) on Straumann Implants you will need to import the Straumann-dme file, located at:

[Connectivity Dental Implant & Prosthetic CADCAM Design Library \(straumann.com\)](https://straumann.com)

Please read the document at this location about the country specific availability of the products.

The Straumann dme contains Implant Systems and Materials (see Chapter Implant Systems and Materials). Please see <https://ifu.straumann.com> for *SRBB IFU700996*

Please note: Cobalt Chromium Bars have been discontinued and for future orders, we kindly ask you to choose the equivalent bar in Titanium material.

### DESIGN OUTSIDE PARAMETER RECOMMENDATIONS

A designed SRBB may be outside the Straumann design recommendations and is therefore a customized product.

As you proceed, multiple parameter limits according to Straumann Design recommendations will not be tested in the software.

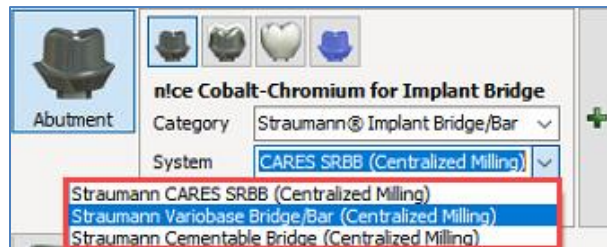
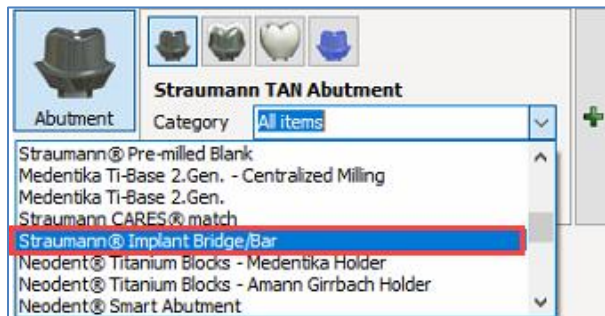
Therefore, please follow the constraints in this document in order to produce a reliable customized product.

In production, your order will be identified as “out of specification” and will be assessed for production feasibility. You will be notified if your design cannot be produced.

## 2. Order Creation

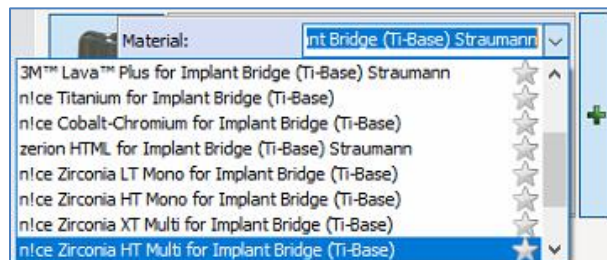
A Straumann Implant Bridge or Bar can be produced in different Materials and with different Implant Systems. Choose the desired material and implant configuration for each tooth position.

**NOTE:** The Implant Systems (Ti-Base or one-piece) and Materials cannot be mixed in a single bridge/bar.



The Materials with the naming „...for Implant Bridge“ are the correct materials for a Straumann direct to implant Bridge/Bar.

**NOTE:** Make sure you choose the Materials with (Ti-Base) for a TiBase Bridge/Bar Prosthesis.



### 3. Model Measurement

To ensure the best-fit for a one-piece Implant Bridge/Bar, Straumann provides a measurement service of the master-cast model. For a Bridge/Bar with more than three Abutments/Implant interfaces, it is always recommended to send the master-cast/stone model to Straumann.

The model is sent to Straumann Production where the implant analog positions are measured with a coordinate measurement machine and corrections are applied to the measured Scanbody positions if needed. If there is a significant difference in Scanbody positions and these accurate measurements, then you will be contacted, to determine if you want to re-scan the master-cast model and re-design the prosthesis, so you can optimize the designed prosthesis with respect to the measured implant positions.

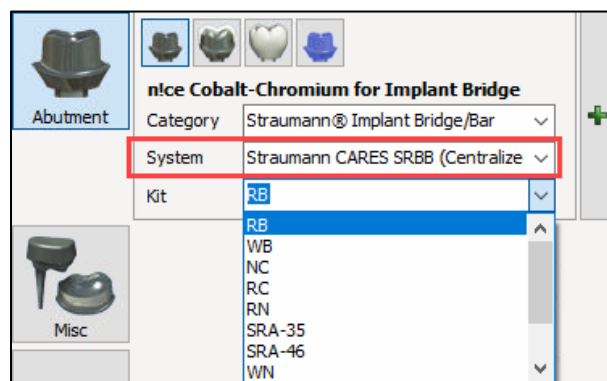
Furthermore, the final restoration will be fit-checked on the master-model as the final step of the quality-controlled process.

**WARNING:** Ensure that **Straumann Scanbodies** are used, to maximize the positioning accuracy of the implant/abutment interfaces and fit of the prostheses.

If you do not use **Straumann Scanbodies**, then please ensure that you send the model to Straumann for measurement as shown below.

If you would like to utilize this measurement service, please follow these Steps:

Open the Order creation and choose an Implant Bridge/Bar using the Straumann Implant Bridge/Bar Implant System:



Choose one of the two Direct to Implant Metal Materials (*Straumann coron for Implant Bridge* or *Straumann ticon for Implant Bridge*).

The screenshot shows a software interface with a dropdown menu for material selection. The dropdown is open, showing three options: 't-Chromium for Implant Bridge', 'n/ce Titanium for Implant Bridge and Bar', and 'n/ce Cobalt-Chromium for Implant Bridge'. The 'n/ce Cobalt-Chromium for Implant Bridge' option is currently selected. Other fields in the interface include 'Manufacturer: Straumann', 'Manufacturing process: Straumann Implant Bridge/Bar', and 'Group: Not in group'.

Choose an option out of the **additional order options**:

**True:** No model measurement

**False:** With model measurement and fit check

The screenshot shows a dialog box titled 'Additional order options'. It contains a dropdown menu labeled 'Modelfree:' with the following options: '- Please select -', '- Please select -', 'True', and 'False'. The 'True' option is currently selected. A mouse cursor is visible over the 'False' option.

**NOTE:** This is an automated process.

If no measurement service is requested, the order will be processed with the Scanned Implant positions. The precision of the Scan will influence the Fit of the Direct to Implant Bridge/Bar.

**WARNING:** 3D-printed models are not allowed to be used for the model measurement service.

## 4. Implant Systems

Straumann has different solutions for an Implant Bridge/Bar. The prosthetics can be screw retained (direct to implant or one-piece) or cemented (Ti-Base = Variobase for Bridge/bar Cylindrical).

**Note:** A screw retained implant system cannot be mixed with a Variobase implant system.

### I. Screw Retained Bridges/Bars

The Straumann Screw Retained Implant System allows the User to screw the Implant Bridge/Bar directly to the Implant. This is possible with the Implants:

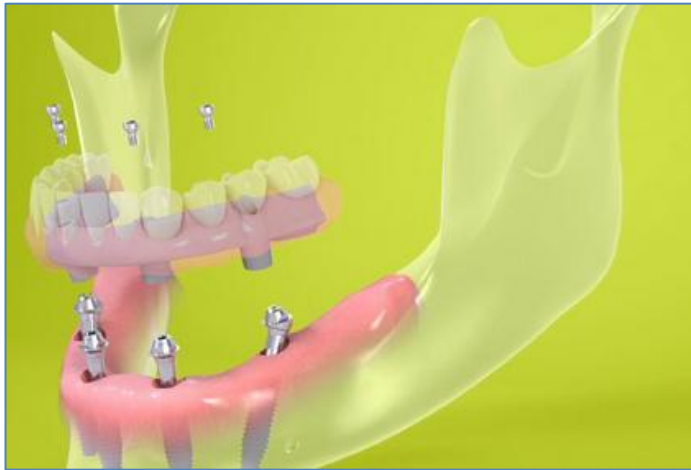
- NC – Narrow Crossfit
- RC – Regular Crossfit
- RN – Regular Neck
- WN – Wide Neck
- RB – Regular Base
- WB – Wide Base
- NT – Narrow TorcFit
- RT – Regular TorcFit
- WT – Wide TorcFit

The Straumann Screw Retained Abutment (SRA) is an abutment System to overcome large Implant angular divergence. These Abutments come in different angles (0°, 17° & 30°), gingiva heights and are screwed into an NC or RC Implant. Since the Implant Bridge/Bar is screwed to the Abutment it is still a screw-retained solution.

Straumann also provides Analogs and Scanbodies for the SRA (Screw Retained Abutment), this is also part of the Screw-Retained Implant System, and are named as:

SRA-35 – Screw Retained Abutment 3.5mm

SRA-46 – Screw Retained Abutment 4.6mm



In addition, it is also possible to design interfaces to multi-platform system (MPS) abutments as described in Section 8.1, with country dependent availability as shown.

**USA/CAN:**

Neodent, Camlog Comfour, Biomet Low Profile, Nobel RP/WP and BioHorizons MultiUnit Abutment

**CE:**

Medentika and Neodent only

The Dentsply (Astra Tech; Ankylos; Astra Tech smart fix concept and Xive S) and Zimmer interfaces are also available in USA/CAN, but can only be integrated in a bridge or bar through the Straumann Scan and Shape service.

Please see [https://eshop.straumann.com/wecstr/sns/home.jsf?wecappid=wecstr\\_us&page=7E44C2883AC94690ADE764D51D5C8722&wec-locale=en\\_US](https://eshop.straumann.com/wecstr/sns/home.jsf?wecappid=wecstr_us&page=7E44C2883AC94690ADE764D51D5C8722&wec-locale=en_US) or contact your Sales Representative to learn more about this service.

## II. Variobase for Bridge/Bar Cylindrical

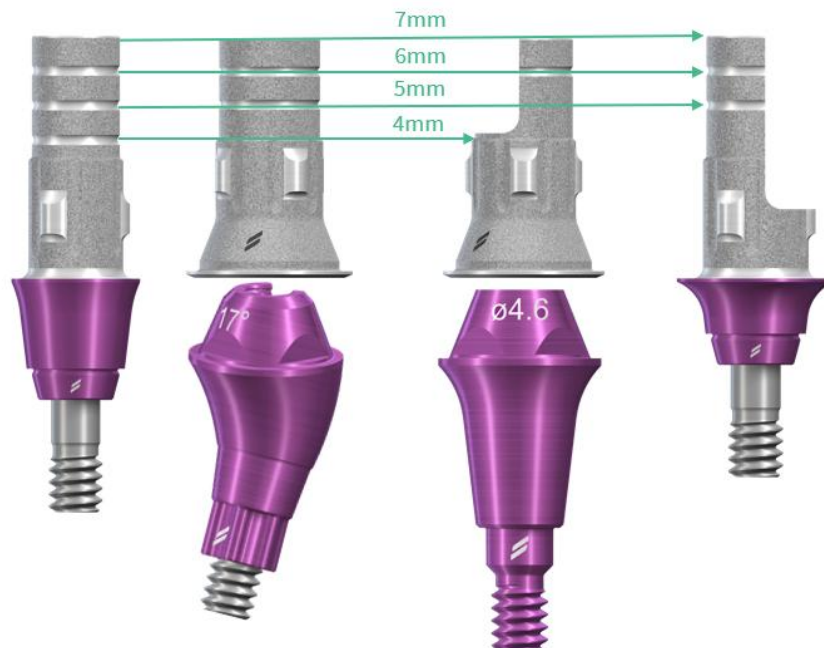
Additionally, the Variobase for Bridge/Bar Cylindrical is also available, this has a bridge interface that is based on the Single Unit Variobase for Crown (with country-dependent availability). The Variobase for Bridge/Bar Cylindrical allows inter-implant angular deviation up to 10°.

- NC – Narrow Crossfit
- NNC – Narrow Neck Crossfit
- RC – Regular Crossfit
- RN – Regular Neck
- WN – Wide Neck
- RB – Regular Base
- WB – Wide Base
- NT – Narrow TorcFit
- RT – Regular TorcFit
- WT – Wide TorcFit
- SRA-35 – Screw Retained Abutment 3.5mm
- SRA-46 – Screw Retained Abutment 4.6mm



### III. Variobase XC for Bridge/Bar

Variobase XC for Bridge/Bar has a 7 mm high chimney that can be used full height or trimmed down to fit the clinical situation. It has clearly machined grooves indicating recommended cut levels, which helps accurate customization. It also has an angulation option that is helpful when the straight access is impossible.



It is available for the platforms:

RB and WB - Straight and AS screw channel with 3 gingiva heights (1.5mm, 2.5mm and 3.5mm) and abutment height of 7 mm adjustable to 3.5mm.

NT, RT and WT - Straight and AS screw channel with abutment height of 7 mm adjustable to 3.5mm.

Compatible with Straumann SRA D4.6mm with abutment height of 7mm adjustable to 4mm.

## IV. Straumann Cementable (Stock) Abutments

The Straumann® dme includes the Straumann® BL cementable and TL® synOcta® cementable abutments. Starting from an implant level impression, whether it is digital or conventional, it is possible for Dental Labs to design and order crowns and bridges restorations via the Straumann® Centralized Milling facility for non-modified cementable stock abutments.



Crowns and 3-unit bridges designs with Implant deviations up to 8° are possible.

**Bridge** designs are possible using only cementable Abutments, no mixing with Straumann Variobase, Medentika or Neodent Ti-Base is allowed. For Crowns and bridges on cementable Abutments, no screw channel holes can be made.

## 5. Materials

The Straumann Milling facilities utilize different high-quality materials for various restoration solutions. To make it easy for the User to choose from the different materials (with country-dependent availability), they have been grouped into screw and cement retained restorations.

**NOTE:** To get more Information about the Materials please use the [CARES Guide!](#)

## I. Direct to implant screw-retained Restorations Materials

Straumann provides two Materials that can be used for a direct to implant connection:

- n!ce Titanium for Implant Bridge and Bar
- n!ce Cobalt-Chromium for Implant Bridge

## II. Cemented to Variobase Restorations Materials

Straumann provides 16 Materials that can be used for Variobase restorations:

|   |
|---|
| n!ce Zirconia LT Mono for Implant Bridge (Ti-Base)                      |
| n!ce Zirconia HT Mono for Implant Bridge (Ti-Base)                      |
| n!ce Zirconia HT Multi for Implant Bridge (Ti-Base)                     |
| n!ce Zirconia XT Multi for Implant Bridge (Ti-Base)                     |
| n!ce Cobalt-Chromium for Implant Bridge (Ti-Base)                       |
| n!ce Titanium for Implant Bridge (Ti-Base)                              |
| zerion LT for Implant Bridge (Ti-Base) Straumann                        |
| zerion UTML for Implant Bridge (Ti-Base) Straumann                      |
| 3M™ Lava™ Plus for Implant Bridge (Ti-Base) Straumann                   |
| n!ce PMMA for Implant Bridge (Ti-Base)                                  |
| 3M™ Lava™ Esthetic for Implant Bridge (Ti-Base) Straumann               |
| JUVORA™ PEEK for Implant Bridge (Ti-Base) Straumann                     |
| zerion HTML for Implant Bridge (Ti-Base) Straumann                      |
| Sakura ML for Implant Bridge (Ti-Base) Straumann (Japan only)           |
| Sakura ML Gradation for Implant Bridge (Ti-Base) Straumann (Japan only) |
| Sakura MC for Implant Bridge (Ti-Base) Straumann (Japan only)           |

**NOTE:** Only Bars for Fixed Prosthetics (i.e. no patient removable dentures) can be produced with the Materials (see chapter 10 Bars for Fixed Prosthetics).

## 6. Product Availability

Before creating an Order with a Straumann SRBB configuration, please make sure to check if the planned order is available in your country. This list shows the currently available SRBB Product configuration for countries, with size limits if applicable.

| Type / Material             |                                    | Canada  | USA     | Japan   | Rest of World |
|-----------------------------|------------------------------------|---------|---------|---------|---------------|
| <b>Cement-Retained SRBB</b> | n!ce Cobalt-Chromium               | yes     | yes     | yes     | yes           |
|                             | n!ce Titanium                      | yes     | yes     | yes     | yes           |
|                             | Straumann zerion LT                | yes     | yes     | yes     | yes           |
|                             | Straumann zerion HTML              | 6 Units | yes     | no      | yes           |
|                             | Straumann zerion UTML              | 3 Units | 3 Units | 3 Units | 3 Units       |
|                             | 3M ESPE Lava Plus Zirconia         | 6 Units | yes     | yes     | yes           |
|                             | n!ce PMMA                          | yes     | yes     | yes     | yes           |
|                             | Juvora PEEK                        | yes     | yes     | yes     | yes           |
|                             | 3M ESPE Lava Esthetic              | 3 Units | 3 Units | 3 Units | 3 Units       |
|                             | n!ce Zirconia LT Mono              | 6 Units | yes     | yes     | yes           |
|                             | n!ce Zirconia HT Mono              | 6 Units | yes     | yes     | yes           |
|                             | n!ce Zirconia HT Multi             | 6 Units | yes     | yes     | yes           |
|                             | n!ce Zirconia XT Multi             | 3 Units | 3 Units | 3 Units | 3 Units       |
|                             | Sakura ML                          | no      | no      | yes     | no            |
|                             | Sakura ML Gradation                | no      | no      | yes     | no            |
|                             | Sakura MC                          | no      | no      | yes     | no            |
| <b>Screw-Retained SRBB</b>  | Straumann SRBB (direct to Implant) | yes     | yes     | yes     | yes           |

## 7. Milling Restrictions

### I. Inter Implant Angle divergence

Due to physical geometrical thresholds for easy and safe insertion of the Implant System, there are limits on the maximum angular deviation between implants. Please compare the maximum angular deviation for the respective implants with respect to the insertion axis with the list provided below.

#### **Measurement Method**

Mechanical measurement on model if angulation appears to be large.

**WARNING:** It is important to not create restorations with larger inter-implant angle divergence. The likelihood of a Bridge/Bar not fitting in the Patient's mouth or that it can't be milled is very high when these Angles are exceeded.

**Note:** If the angle between implants is too large, it may also not be possible to mill the SRBB. If there are large angles between implants, it is recommended to split the bridge in two or more parts in collaboration with your customer (dentist) or use SRA interfaces with angulation on BL implants, see Section 4.1.

Directly Connected to Implant Bridges and Bars:

| Interface Name for direct connected SRBB's    | Value which part of material grouping               | Value for USA part of material grouping             |
|---|---|---|
| Camlog Comfour 3.3/3.8/4.3 (315023)           | Purple 7°   | Purple 7°   |
| STRM SRA 3.5 (308304)                         | Yellow values can be grouped together to 12 degrees | Yellow values can be grouped together to 12 degrees |
| Bone Level (RC, NC)                           |   |   |
| Dentsply,Xive S MP Abutment D3.4/3.8 (315017) |   |   |
| Dentsply,Xive S MP Abutment D4.5 (315019)     |   |   |
| Dentsply,Xive S MP Abutment D5.5 (315021)     |   |   |
| Dentsply Anklylos Balance Base C (315014)     |   |   |
| Zimmer Taper Abutm. (314300)                  |   |   |
| Medentika Medentibase (318172)                | Green values to be grouped together to 17 degrees   | Green values to be grouped together to 17 degrees   |
| Camlog Comfour 5.0 (315025)                   |   |   |
| Medentika Multiunit (314210)                  |   |   |
| Dentsply, Smart fix (315672)                  | red values can be grouped together to 20 degrees    | red values can be grouped together to 20 degrees    |
| Neodent Micro Conical (313988)                |   |   |
| Biomet Low Profile (314010)                   |   |   |
| Nobel RP MultiUnit Abutm (314325)             |   |   |
| Nobel WP MultiUnit Abutm (314327)             |   |   |
| STRM SRA 4.6 (308305)                         |   |   |
| Biohorizons MultiUnit Abutm. (314247)         | Blue values to be grouped together to 22.5 degrees  | Blue values to be grouped together to 20.0 degrees  |
| BLX   |   |   |
| STRM SRA 4.6 (308305) for US SnS              |   |   |
| Neodent Mini Conical (308935)                 |   |   |
| Tissue Level (RN, WN)                         |   |   |
| TLX (NT,RT,WT)                                |   |   |
| Densply Uni EV Straight (314331)              |   |   |

Bridge and Bars cemented on top of Ti-Bases:

| Interface Name for Ti-Base for Bridge and Bar                                      | Serie  | Implant connection/<br>diameter | Value which is as part of<br>material grouping<br>Polymer/Zirconia | Value which is part of<br>material grouping<br>coron/ticon |
|--|--------|---------------------------------|--|--|
| Medentika/DENTSPLY Implants / ANKYLOS <sup>®</sup> C/X                             | Y      | all diameters                   | Values are grouped together to 15°                                 | Values are grouped together to 15°                         |
| Medentika/Nobel Biocare / NobelReplace <sup>®</sup> Tapered                        | E 1500 | NP 3,5                          |  |  |
| Medentika/Altatec / Conelog <sup>®</sup>   | D      | all diameters                   |  |  |
| Medentika/Straumann / Tissue Level   | N 1510 | RN                              |  |  |
| Medentika/Straumann / Tissue Level   | N 1520 | WN                              |  |  |
| Straumann/ Bone Level  |        | NC                              |  |  |
| Straumann/ Bone Level  |        | RC                              |  |  |
| Straumann/ Tissue Level  |        | NNC                             |  |  |
| Straumann/ Bone Level  |        | RB                              |  |  |
| Straumann/ Abutment Level  |        | SRA 35                          |  |  |
| Neodent/ GM  |        | GM                              |  |  |
| Medentika/BIOMET 3i / Certain <sup>®</sup>   | H 1500 | D 3,4                           |  |  |
| Medentika/BIOMET 3i / External Hex   | I      | all diameters                   |  |  |
| Medentika/Nobel Biocare / Brånemark System <sup>®</sup>                            | K      | all diameters                   |  |  |
| Medentika/Straumann / Tissue Level   | N      | NNC                             |  |  |
| Medentika/Microcone  |        | NI                              |  |  |
| Medentika/Microcone / Quattrocone  |        | RI                              |  |  |
| Medentika/Bredent Medical / SKY <sup>®</sup>                                       | B      | all diameters                   |  |  |
| Medentika/DENTSPLY Implants / ASTRA TECH OsseoSpeed <sup>®</sup> EV                | EV     | all diameters                   |  |  |
| Medentika/DENTSPLY Implants / ASTRA TECH OsseoSpeed <sup>®</sup> TX                | S      | all diameters                   |  |  |
| Neodent Nuvo CF  |        | NP/SP                           |  |  |
| Straumann/ Tissue Level  |        | RN                              |  |  |
| Straumann/ Tissue Level  |        | WN                              |  |  |
| Straumann/ Abutment Level  |        | SRA 46                          |  |  |
| Neodent Nuvo IF  |        | NP/SP                           |  |  |
| Medentika/Nobel Biocare/NobelActive <sup>®</sup> NobelReplace <sup>®</sup> Conical | F      | all diameters                   | Yellow values are grouped together to 20°                          | Yellow values are grouped together to 25°                  |
| Medentika/Nobel Biocare / NobelReplace <sup>®</sup> Tapered                        | E 1510 | RP 4,3                          |  |  |
| Medentika/Straumann / Bone Level   | L      | NC                              |  |  |
| Medentika/Straumann / Bone Level   | L      | RC                              |  |  |
| Medentika/Zimmer Dental / Tapered Screw-Vent <sup>®</sup>                          | R 1500 | D 3,5                           |  |  |
| Medentika/Zimmer Dental / Tapered Screw-Vent <sup>®</sup>                          | R 1510 | D 4,5                           |  |  |
| Medentika/Nobel Biocare / NobelReplace <sup>®</sup> Tapered                        | E 1520 | WP 5,0                          |  |  |
| Medentika/BIOMET 3i / Certain <sup>®</sup>   | H 1510 | D 3,4                           |  |  |
| Medentika/BIOMET 3i / Certain <sup>®</sup>   | H 1520 | D 4,1                           |  |  |
| Medentika/Altatec / Camlog <sup>®</sup>  | C      | all diameters                   |  |  |
| Medentika/Zimmer Dental / Tapered Screw-Vent <sup>®</sup>                          | R 1520 | D 5,7                           |  |  |
| Medentika/DENTSPLY Implants / XIVE <sup>®</sup> S                                  | T 1500 | D 3,4                           |  |  |
| Medentika/BEGO Implant Systems/ Semados <sup>®</sup> S/SC/SCX/RS/R SX/RI           | BS     | all diameters                   |  |  |
| Medentika/DENTSPLY Implants / XIVE <sup>®</sup> S                                  | T 1505 | D 3,8                           |  |  |
| Medentika/DENTSPLY Implants / XIVE <sup>®</sup> S                                  | T 1510 | D 4,5                           |  |  |
| Medentika/DENTSPLY Implants / XIVE <sup>®</sup> S/ D 5,5                           | T 1520 | D 5,5                           |  |  |
| Medentika/Medentis Medical / ICX   | CX     | all diameters                   |  |  |
| Medentika MedentiBASE / Abutment Level   |        | all diameters                   |  |  |
| Medentika Multi-unit / Abutment Level  |        | all diameters                   |  |  |

## II. Material Blank Size

To ensure that the Implant Bridge/Bar can be milled correctly it must fit the Material Blank.  
 The maximum design height can be found in the table below.  
 Note for Zirconia these values are the sizes after sintering.

| Material                                   | Max Design Height |
|--|-------------------|
| nIce Zirconia LT Mono                      | 15,35 mm          |
| nIce Zirconia HT Mono                      | 23,35 mm          |
| nIce Zirconia HT Multi                     | 23,35 mm          |
| nIce Zirconia XT Multi                     | 19,35 mm          |
| 3M™ Lava™ Esthetic Straumann               | 16,86 mm          |
| Sakura ML Straumann (Japan only)           | 23,27 mm          |
| Sakura ML Gradation Straumann (Japan only) | 19,27 mm          |
| Sakura MC Straumann (Japan only)           | 23,27 mm          |
| nIce Cobalt-Chromium                       | 17,4 mm           |
| nIce Titanium                              | 14,9 mm           |
| nIce Titanium for Implant Bridge (Ti-Base) | 19,65 mm          |
| nIce PMMA                                  | 28,60 mm          |
| JUVORA™ PEEK Straumann                     | 19,21 mm          |

**NOTE:** Check the design height in the dental manager before sending the order to Straumann production, to ensure it can be manufactured:

| Items             | Material          | Status   | Height   |
|-------------------|-------------------|----------|----------|
| Bar 33-43         | *Straumann cor... | Designed | 6.03 mm  |
| Screw retained... | *Straumann 3M...  | Designed | 9.61 mm  |
| Screw retained... | *Straumann cor... | Designed | 14.38 mm |

## 8. Safety Relevant Design Restrictions

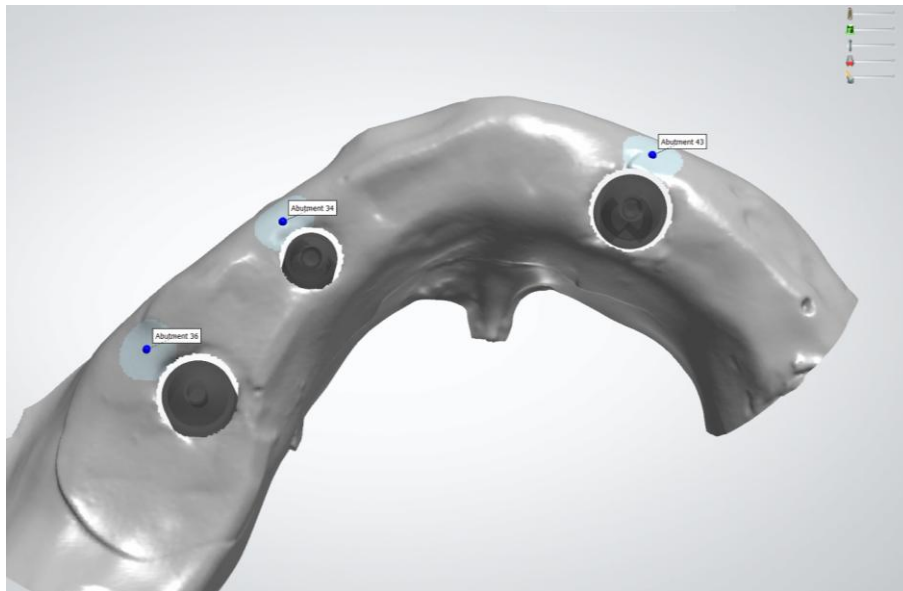
### I. General Information

To be able to create a product with minimal risk for the patient, some Restrictions need to be held.

**WARNING:** A patient and product risk exists if the User does not follow these recommended rules and restrictions. In addition, there may be delays to production of the device when deviations from these restrictions are observed.

#### Annotations

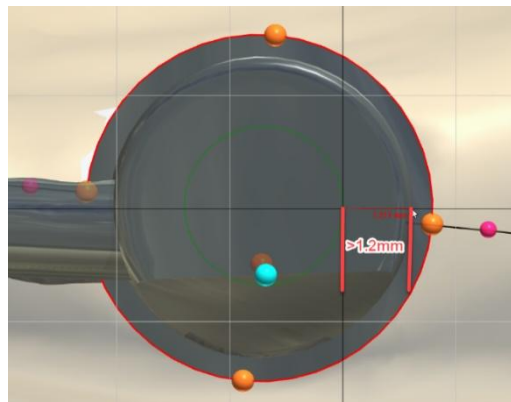
To ensure the correct calculation of the designed Bridge/Bar it is important to set the “Annotations” correctly. The respective points must be set at the vestibular area adjacent to the implant. See picture below.



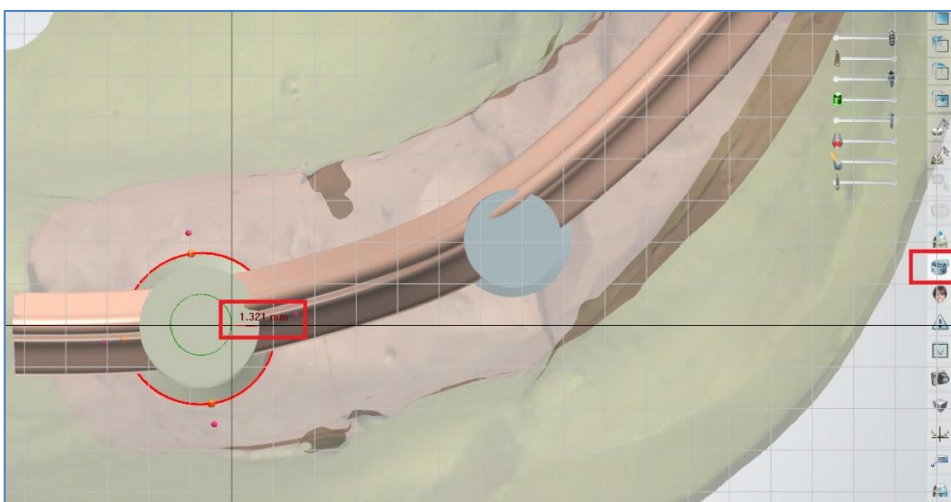
**Maximum Inter-Implant Distance:** The maximum number of Gaps between two Implants is three Pontics/Tooth positions, this corresponds to a maximum distance of 34 mm.

**Maximum Length of Free End:** A maximum of one tooth can be placed at a free-end or in the case of a bar, a maximum length of 15 mm from the implant center is allowed.

The Wall thickness (thickness to screw channel) for Cantilever Pillars must be at least 1.2 mm for Metals and 1.6 mm for Zirconia. Use the measurement function as shown below to measure the minimum thickness:



Use the Measuring Grid and place the center of the grid at the edge of the Screw Channel to measure the material thickness to the outer limit of the Pillar.



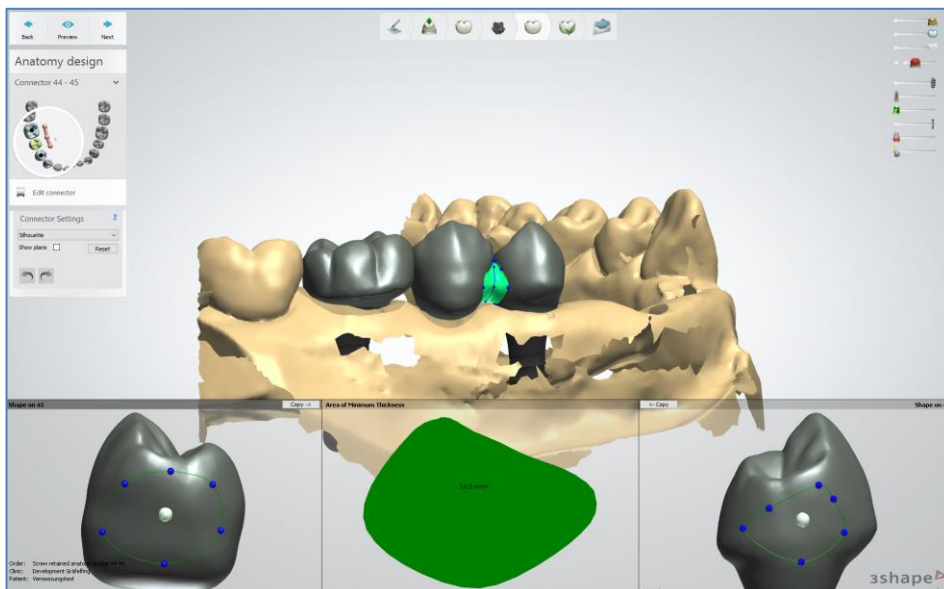
## II. Connector/Bar Cross-section area

Independent of the Material or Cemented/Screw-Retained, Straumann recommends these Connector / Fixed Bar cross sections (in a bridge, the pontics should also not be smaller than these cross-sections):

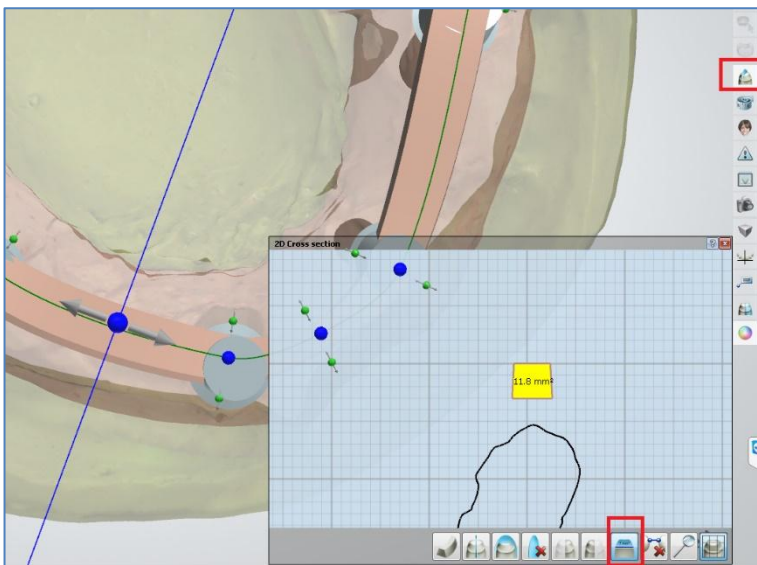
| Region           | 1 Missing Tooth   | 2 Missing Teeth   | 3 Missing Teeth    | Free End / Cantilever |
|------------------|-------------------|-------------------|--------------------|-----------------------|
| Front & Premolar | 5 mm <sup>2</sup> | 5 mm <sup>2</sup> | 8 mm <sup>2</sup>  | 13 mm <sup>2</sup>    |
| Premolar-Molar   | 5 mm <sup>2</sup> | 8 mm <sup>2</sup> | 13 mm <sup>2</sup> | 17 mm <sup>2</sup>    |
| Molar            | 5 mm <sup>2</sup> | 8 mm <sup>2</sup> | 13 mm <sup>2</sup> | 17 mm <sup>2</sup>    |

**NOTE:** The only exception from these design rules is for the lower incisors, where it is possible to have four Pontics/Tooth positions between the implants and a minimum connector/pontic cross-section of 5 mm<sup>2</sup>.

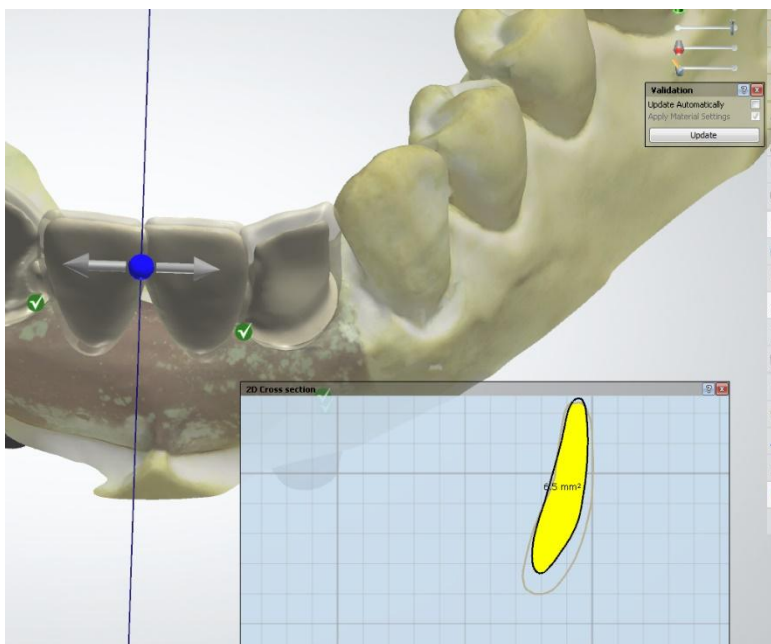
For Bridges with connectors, the Cross-sections are shown in the connector designer and the observation plane should be moved along the tooth arch to check the cross-section area:



For Bars, to measure the cross-section use the Area Function in the 2D Cross section view:



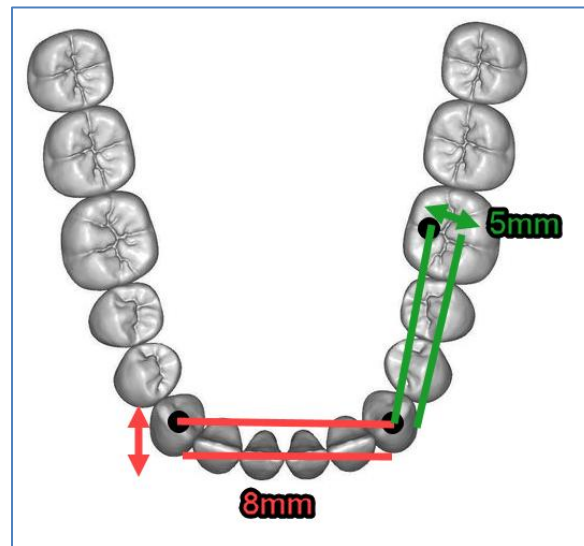
The cross-section when using natural connectors should also follow the guidelines and can be measured with the same tool.



### III. Labial/Buccal Shift

The User can offset the Bridge or Bar contour from the Jaw arch to create a better anatomic situation.

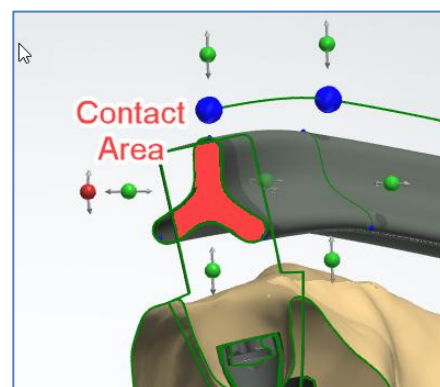
**Note:** The Offset of the **Bridge** between two Implants in the Labial direction should not be larger than 8 mm and in the buccal direction should not exceed 5 mm.



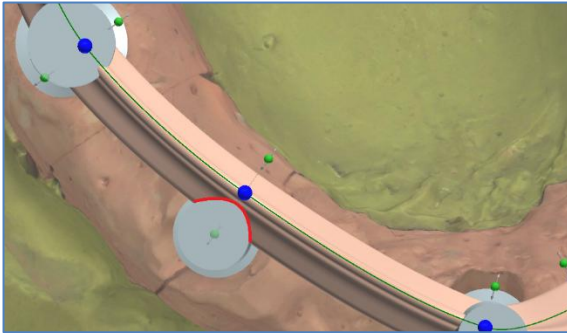
### IV. Bar to Pillar contact area

This contact area between the bar and pillar is crucial for the stability of the Implant Bar. The minimal contact area between the Bar and the Pillar should be:

- 5 mm<sup>2</sup> for all Bars for removable Prosthetics
- The same size as the connector min. Cross section for that region for Bars for fixed prosthetics (see table in Section II for the required cross-section)



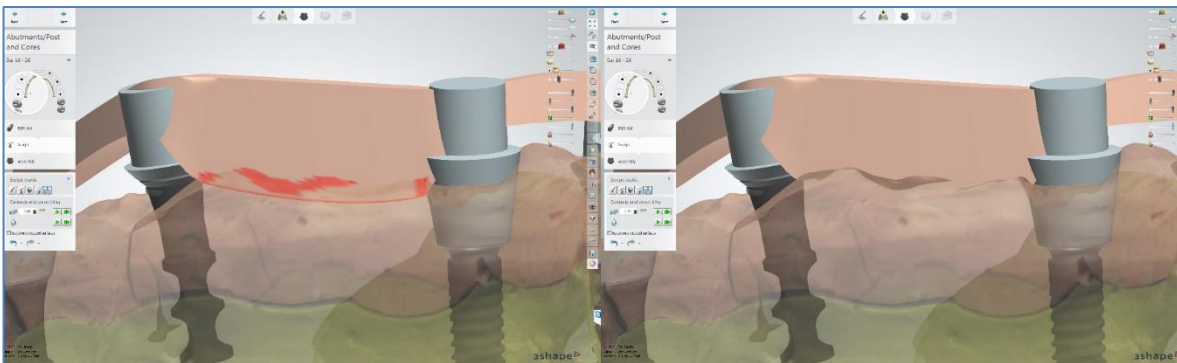
**Measurement Method** – Use the ruler as shown in Section 8, to measure the height and width of the contact area. The top view shows the limited contact of a bar with a pillar, the length in red is then multiplied by the height in contact to give the contact area.



## V. Gingiva subtraction

The User is able to adapt components to the Gingiva surface.

**Warning:** After reducing the size of Pontics, Connectors and Bars to compensate for the gingiva penetration, make sure the remaining cross-section is fulfilling the minimal cross-section values (see Section II).

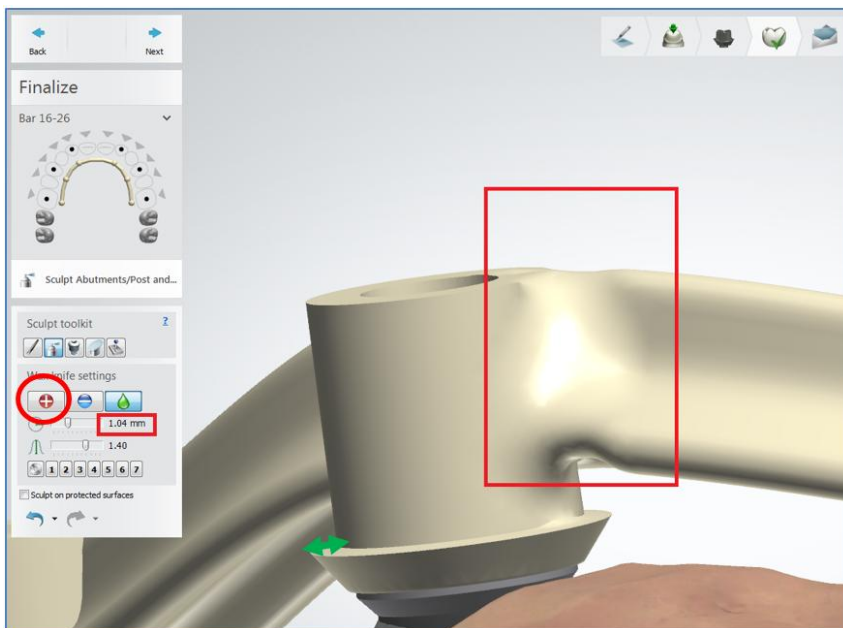


## VI. Rounding Corners Between Bar and Pillar

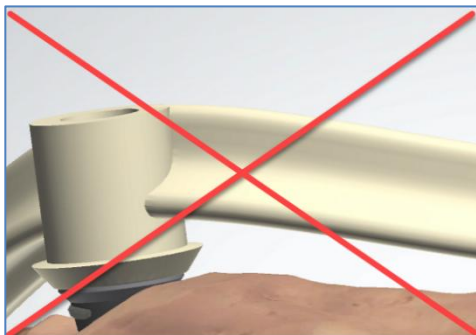
The connection between the bar and pillar should be smooth. Use the wax smoothing tool as shown in the rectangular box with a radius of 1mm. Carefully fill the transition area between the bar and pillar with material as shown in the picture.

The red-circled additive waxing tool can also be used to smooth the transition.

**Note:** If the radius tool decreases the bar width then use the additive waxing to smoothly restore the thickness.



**Warning** – failure to have a smooth transition between bar and pillar (see picture below), made by adding material, can reduce the strength of the bar.



## VII. Design Guide

When the User designs a screw-retained Bridge/Bar, the design constraints must be considered.

**NOTE:** A mix between Bars for removable and fixed restorations is not possible in a single screw-retained Bar.

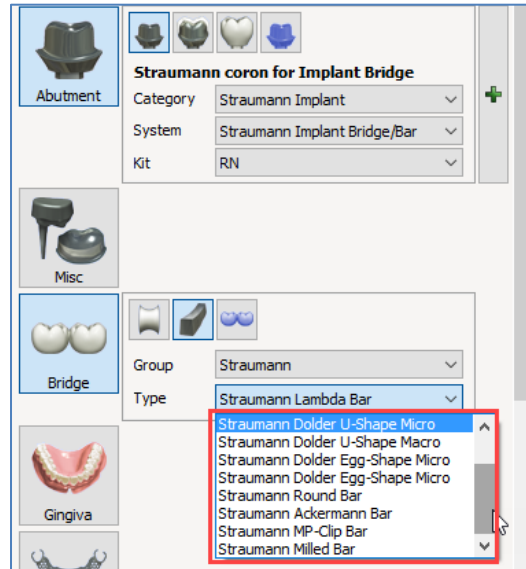
### 9. Bars for removable restorations

Straumann provides various solutions of Bars for removable restorations. These Bars can be designed using either of the Implant Systems (Screw Retained or Variobase).

**NOTE:** Bars for removable restorations can only be made in Metal (Titanium), see the following Table.

|  |  |  |
|--|--|--|
| <p><b>Dolder® U-shape Bar</b></p>                                       | <p><b>Dolder® Egg-shape Bar</b></p>             | <p><b>Milled Bar</b></p>   |
| <ul style="list-style-type: none"> <li>• U-shaped cross-section</li> <li>• Rigid and stable combination of bar and matrix</li> </ul>                       | <ul style="list-style-type: none"> <li>• Egg-shaped cross-section</li> <li>• Vertical translation and rotation possible</li> </ul> | <ul style="list-style-type: none"> <li>• Adjustable height and width</li> <li>• 0°, 4°, 6, 8° wall taper</li> <li>• Threads for Novaloc® and LOCATOR® Bar Abutment</li> <li>• Align common insertion axis of the attachments</li> <li>• More resistant against mastication forces, compared to attachments on their own</li> </ul> |
| <p><b>Ackermann-Bar®</b></p>    | <p><b>Round Bar</b></p>                         | <p><b>MP-Clip® Bar</b></p>   |
| <ul style="list-style-type: none"> <li>• Round section bar</li> <li>• 2 rider concepts for space saving mounting</li> <li>• Bar diameter 1.8 mm</li> </ul> | <ul style="list-style-type: none"> <li>• Round section bar</li> <li>• Bar diameter 1.9 mm</li> </ul>                               | <ul style="list-style-type: none"> <li>• Economical alternative to prefabricated metal matrixes</li> <li>• The retention intensity can easily be adjusted by exchanging the retention inserts.</li> <li>• Bar diameter 1.8 mm</li> </ul>   |

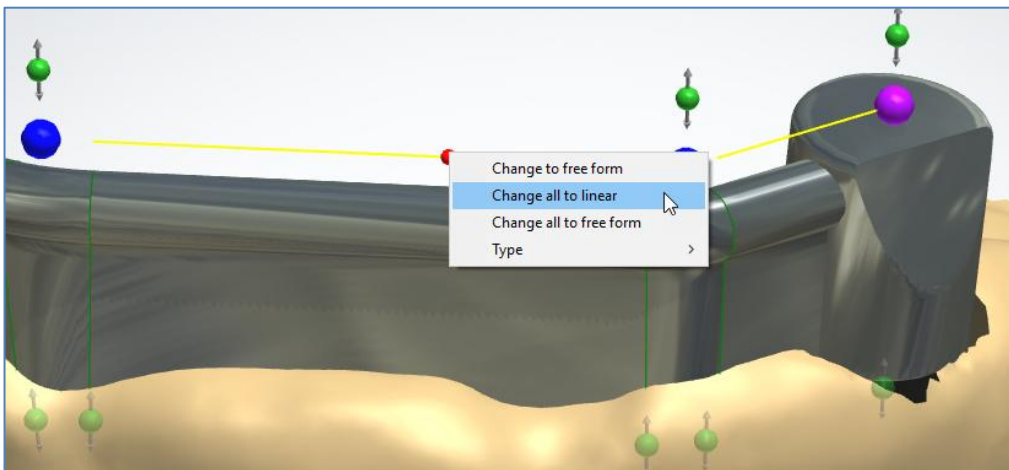
All Straumann Bars for removable restorations can be found in the order form:



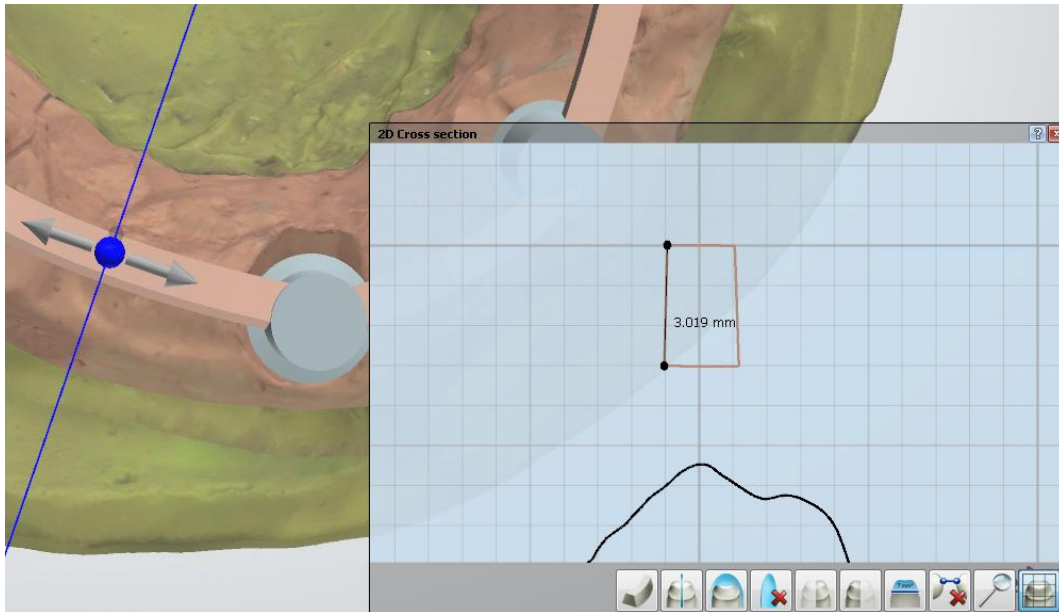
**WARNING:**

When designing a Straumann Implant Bar, **DO NOT** use any attachments.

The Bar **MUST** be designed in Linear mode (selected with right mouse click on the bar).

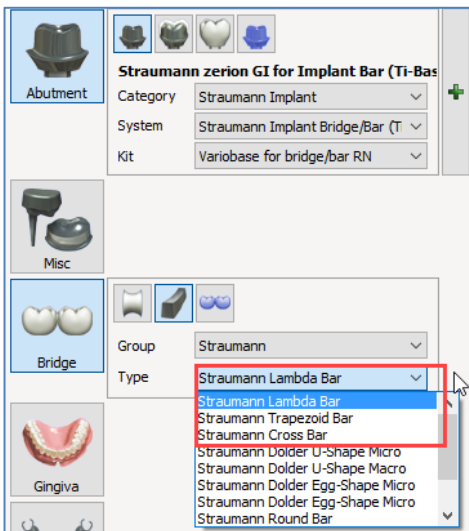


**Warning:** The required Minimal Width for the Milled Bar is 2 mm and the minimal height is 3 mm, use the ruler in the 2D Cross section to ensure these values are achieved.



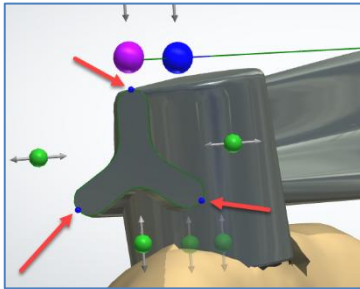
## 10. Bars for fixed prosthetics

Straumann Bars for fixed restorations can also be found in the order form:



**WARNING:** When designing a Straumann Implant Bar, make sure not to use **ANY** attachments and to inspect the Design (for intersections and mesh errors) before sending to Straumann production.

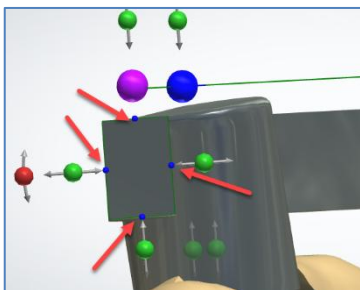
**Lambda Bar:**



Besides the regular Horizontal/Vertical scaling and rotation handles, the Lambda Bar also has handles on each “Leg” to create an individual and anatomically appropriate design.

**Warning:** Use the cross-section measurement tool and ensure the cross-section fulfills the values as given in Section II.

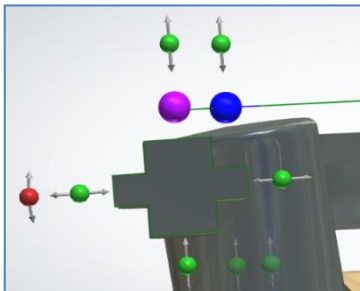
**Trapezoid Bar:**



Besides the regular Horizontal/Vertical scaling and rotation handles, the Trapezoid Bar also has handles on each Side to create an individual and anatomically appropriate design.

**Warning:** Use the cross-section measurement tool and ensure the cross-section fulfills the values as given in Section 8.2

**Cross Bar:**



The Cross Bar can be scaled using the Horizontal/Vertical scaling tools.

**Warning:** Use the cross-section measurement tool and ensure the cross-section fulfills the values as given in Section 9.2

For fixed bars, it is possible to place a shoulder on the pillars to define the finishing line for acrylic coverage.



**Note** The shoulder width (green arrow) should be less than 2 mm to ensure it can be milled.

## 11. Bridges

Straumann can provide a wide range of materials for the Bridges. Bridges can be designed using either of the Implant Systems (Screw retained or Variobase for Bridge/Bar). The range of Materials are listed in Section 5.

**Warning:** Use the cross-section measurement tool and ensure the cross-section fulfills the values as given in Section II.

## 12. Local Support

If you have questions about the Workflow or any of the Products, feel free to contact your local support.

You can find your local support here:

[Contact Us | Digital Dentistry Solutions \(straumann.com\)](https://straumann.com)