NobelProcera® FCZ Implant Crown
Handling guidelines for dental laboratories

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Full-contour implant crown wax-up fabrication – new working procedure

1. Create a wax-up full-contour implant crown

To fabricate a NobelProcera FCZ Implant Crown – a 'Wax-up Sleeve ASC Engaging' should be used.

The wax-up sleeve* for the NobelProcera FCZ Implant Crown is designed to simplify the workflow.

Note: Only Omnigrip Screws can be used with the Wax-up Sleeve ASC Engaging.

This wax-up sleeve mimics the emergence profile of the final implant crown, bringing you predictability in the critical soft tissue area. The dimensions (minimum and maximum material constraints) of the final product are incorporated and depicted in the sleeve's design, bringing you guidance, ease of use, and eliminating the element of surprise when you receive your restoration from us.

2. Create the emergence profile for the wax-up implant crown

The emergence profile of this wax-up sleeve indicates both the minimum and maximum material constraints of the NobelProcera FCZ Implant Crown.

Note that there is a 'no-go area' for wax application (**Fig 1, Fig 3a and Fig 3b**), as any wax applied in this zone will be cropped away in the NobelProcera Software.

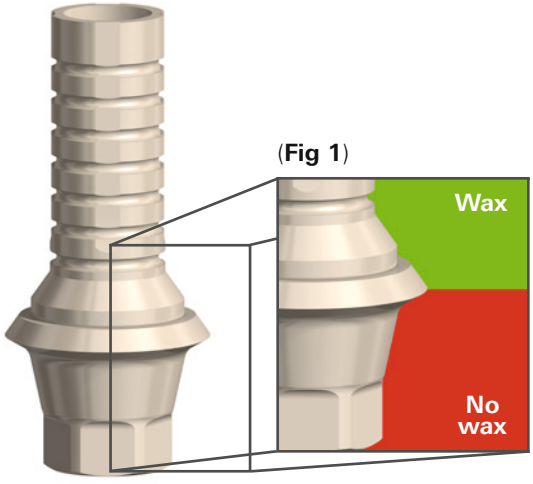
For more freedom when designing the emergence profile, you can adjust the wax up sleeve (see **Fig 2**).

Note: Do not modify beneath the emergence profile of the wax-up sleeve (indicated by red area)

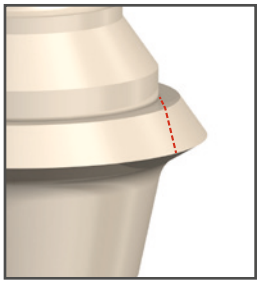
Important: NobelProcera will adhere to the minimum material constraints to ensure a delivery of a product that lasts.

If wax is applied in the red area, the finished product will not reflect the wax-up design.

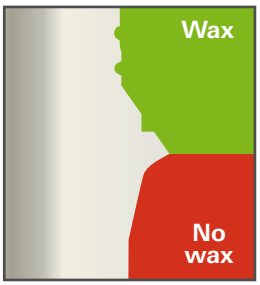
*this is the same wax-up sleeve which can also be used for the NobelProcera ASC Abutment



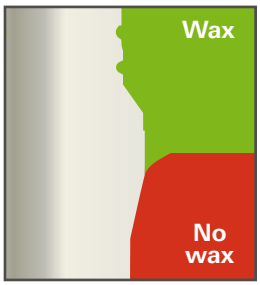
(**Fig 1**)



(**Fig 2**)
Indicates wich area can be freely adjusted.



(**Fig 3a**)
Indicates where wax can be applied, without modification of the wax-up sleeve.



(**Fig 3b**)
Indicates where wax can be applied, once the wax-up sleeve has been modified.

Tips for the wax-up fabrication

Reinforce all contacts (mesial, distal and occlusal) to ensure sufficient contacts on finished product.

In the green area (see fig.1 on previous page) we mill what you have designed – meaning the smoother the surface of your wax-up implant crown, the smoother the final product.

Tip: wax surfaces can be smoothened by rubbing oil over them with a piece of stocking or cotton wool. Care must be taken so as not to remove too much material.

Use CAD wax or alternatively CAD spray if material is too shiny.

Cut back techniques can be used (especially for anterior teeth). This is done by reducing the desired amount of wax on the facial aspect of the implant crown before later replacing it with a thin veneering layer or by using more extensive layering techniques.

Shade matrix overview

Shade is selected in the software according to the matching base shade (base shade is stained to achieve equivalent A–D shade) in the color matrix.

NobelProcera FCZ shade	Equivalent VITA® shades
S0	0M1, 0M2, 0M3
S1	Bleach with yellow tinge
S2	A1, B1, C1, D2 (incisal)
S3	A2, B2
S4	A3, A3.5, B3, C2, D3, D4, D2 (body)
S5	C3
S6	C4, A4, 5M2
S7	B4

Note: The shade guidelines proposed in the matrix are only recommendations. The equivalent shades are from the VITA Toothguide 3D-MASTER® with BLEACHED SHADE GUIDE and VITA classical Shade Guide. The indicated VITA shades can be achieved by applying ceramic stains.

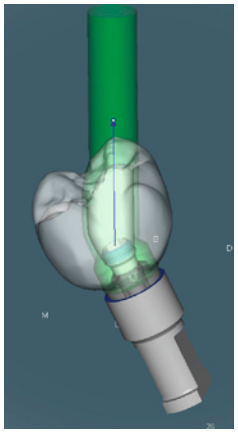
CAD workflow

Once your case has been successfully scanned, open the CAD module to continue with design modifications By clicking on the ASC icon (highlighted in red below), it is possible to digitally modify the screw access hole of your implant crown.

For more information about the CAD workflow, please follow the tutorial found in the NobelProcera Software.

- After choosing the ASC function, a handle appears at the top of the screw access hole. This can be dragged to the desired position. It is possible to angulate the screw channel of your implant crown by up to 25°.

- The intelligent software allows you to visualize your newly modified screw access hole. Any areas that are too thin are indicated in red and must be adjusted prior to the order being sent to the NobelProcera production facility. This helps ensure the safety and longevity of your restoration.



Modification & finalization tips for the FCZ Implant Crown

1. Surface preparation

The NobelProcera FCZ Implant Crown has a smooth surface finish thanks to its highly dense surface. To aid in the application of stains and/or glaze, the surface should be slightly roughened. This can be done by applying ceramic or pumice powder to the surface with either your finger or a rotating tool such as a brush.

2. Surface finish

All areas in occlusion with the antagonist (this may include buccal and lingual areas) must be polished with appropriate silicones, even if glaze is applied on top.

When polishing the surface of FCZ Implant Crown a multistep polishing procedure should be used.

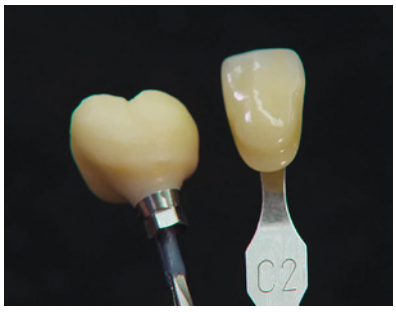
The polishing instruments are available from most silicone polisher suppliers.

Please educate clinicians that they must apply the same polishing to FCZ material if they adjust any occluding surface (the same silicones are available for the dentist handpiece). Otherwise, the very abrasive surface of the zirconia could cause severe abrasion to the antagonist.

Application of stains/veneering material

1. Add veneering material (optional)

If the NobelProcera FCZ Implant Crown was created with a cutback design, the crown can be veneered with dental ceramics which are in the CTE value of dental zirconia such as VITA VM9.

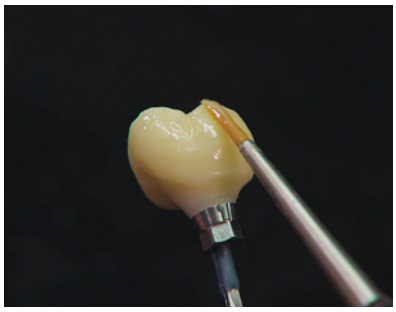


Note: NobelProcera FCZ Implant Crown material CTE (400–500 °C), 10.23–10.9 · 10–6 · K-1

Important: Always ensure that the fired product is cooled down slowly, even if the ceramic/stain manufacturer doesn't specify to do so.

2. Apply stains and glazes (optional)

Dental ceramic stains and glazes within the CTE value of zirconia can be applied to the FCZ Implant Crown such as VITA AKZENT.



Tip: Due to their higher viscosity, paste stains have proven easier to apply to the FCZ surface (which, as indicated previously, should be slightly roughened).

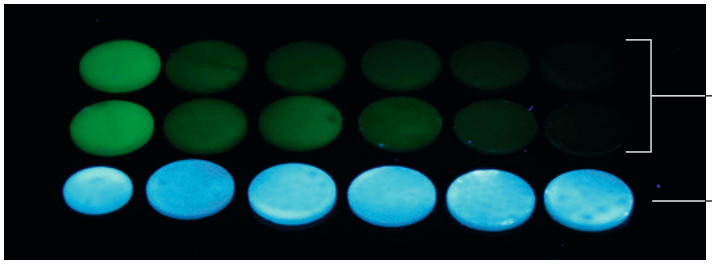
Stains should be applied according to the desired tooth shade and in line with the materials instructions provided by the manufacturer of the stain / glaze

3. Firing

The firing instructions for the veneering material and from the stain/glaze manufacturer must be followed. Prior to firing FCZ product, the metal adapter needs to be removed.

Important: We recommend that a fluorescent glaze material is used, as zirconia does not have a tooth-like fluorescence (see comparison below)

Again, always ensure that the fired product is cooled down slowly, even if the ceramic/stain manufacturer doesn't specify to do so.



Material samples under a 100 W fluorescent lamp

Tip: We recommend to order a separate metal adapter for lab use to ensure that the metal adapter for clinical use (delivered with restoration) stays in its original condition. The same applies to the screw: please use a lab screw for all processing within the dental laboratory.

Illustrations of above product are a case courtesy of Michiel Wouters.