Workflow
smartDenture

The integrated iCAM V5 smart solution

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Dental & Medical Solutions

Take advantage of the system's uniqueness!

The positions of the designed teeth (single/block/assembled) glued into the base after milling, always have deviations due to the gap dimension generated in the design software. These are differences in occlusion (opening and closing of the jaws) and articulation (lateral movement of the jaws).

The solution: The smartDenture Workflow

By marking the interference areas with a brush in the iCAM V5 smart software, the early contacts are removed during the milling process, thus restoring the functionality of the prosthesis(s). This is <u>**only possible through exact repositioning using the zero-point clamping system in the CORiTEC milling machines listed below.**</u> Reocclusion/rearticulation is neither possible with additive manufacturing techniques nor with machines without a zero point clamping system or adequate systems.

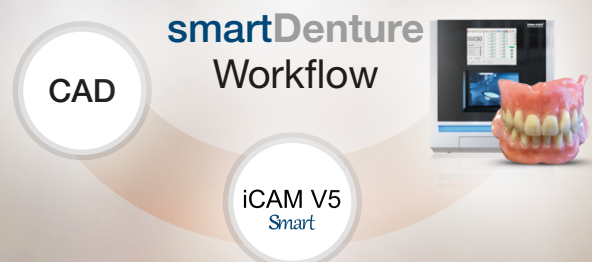## CORiTEC milling systems including zero-point clamping system

CORiTEC 350i series

CORiTEC 650i series

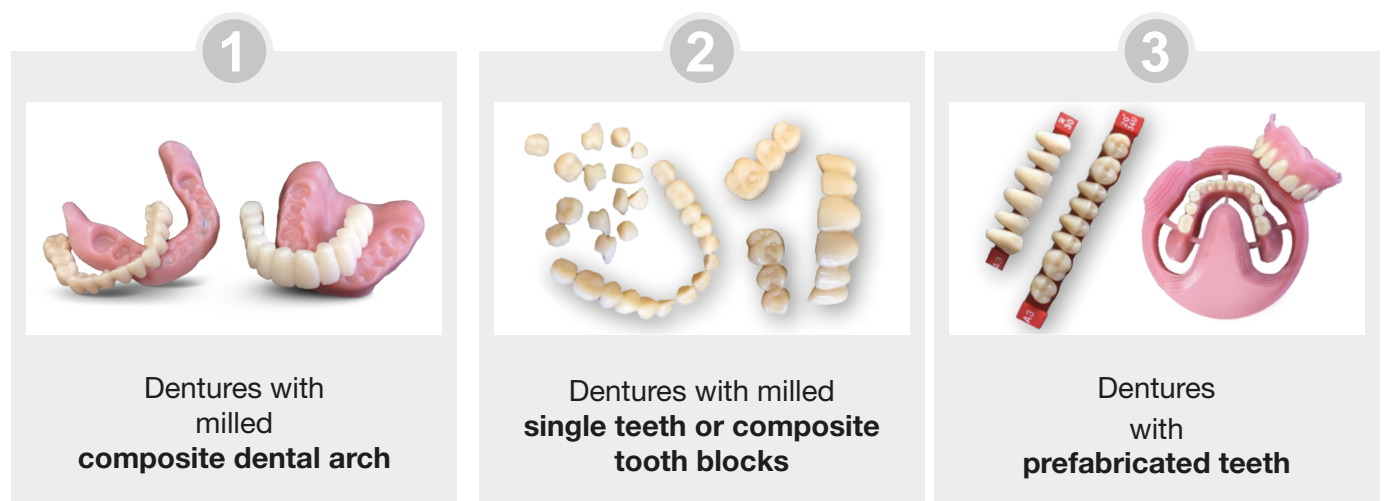## Just 3 steps
to the perfect result

CAD

smartDenture
Workflow

iCAM V5
Smart

Digital full denture prosthetics through smartDenture **Workflow**

Fabrication of complete dentures with ready-made teeth in the subtractive manufacturing process

The digital possibilities in dental technology are constantly evolving. This also applies to the fabrication of full dentures. The integrated smartDenture workflow makes the fabrication of a full denture much easier. This automated workflow offers all variations for the fabrication of complete dentures, not only with individually milled components, but also with the processing of the ready-made teeth stored in CAD. By loading a single stl file, an automated workflow is started, which includes both the upper side of the denture with pockets, as well as the possibility of functional design of the masticatory apparatus and the underside of the denture base.

The almost continuous machine production opens up many advantages for dental laboratories - especially in terms of time, costs and the replicability and fit of the full denture. The relatively short time is required to fabricate a full denture which reduces the manufacturing costs and allows a much more affordable solution for the patient.

The integrated iCAM V5 smart solution for:

1 Dentures with milled **composite dental arch**

2 Dentures with milled **single teeth or composite tooth blocks**

3 Dentures with **prefabricated teeth**

Differences between individually produced teeth and prefabricated teeth

Individually milled teeth	Ready-made teeth
Teeth can be modified in CAD	Can not be modified
Self-made from multilayer discs	Teeth must be purchased
Aesthetics and material sub-optimal	Aesthetics and material are mature
No huge stock	Tooth storage must be kept in stock
Function is also milled as designed in CAD	Function is milled by machine
Working with single teeth, blocks and dental arches are possible	Working only with single teeth
Occlusion corrections are possible for every tooth	Occlusion of the posterior teeth can only be corrected in a block

The smartDenture **Workflow** with confection teeth

1. Set parameters in CAD software

Creating the pocket size to teeth, dental blocks and ready-made teeth confection teeth are defined in CAD.

The output is two stl. files:
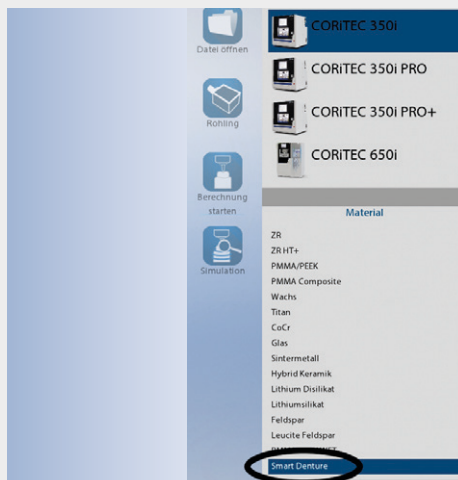**Exocad:** prostheticbase_cad.stl and prostheticmonoblock_cad.stl
3shape: .stl and Monoblock.stl

prostheticbase_cad.stl (exocad)
or .stl (3shape)

*prostheticmonoblock_cad.stl (exocad)*
or Monoblock.stl (3shape)

The specified position from the design software is imported 1:1 into the iCAM V5 smart software.
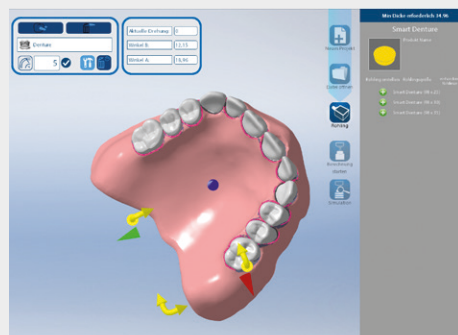
2. Set parameters in iCAM V5 smart software

The stl-file is loaded into the iCAM V5 smart software (example Exocad): **prostheticbase_cad.stl**

Subsequently, the corresponding machine (here CORiTEC 350i PRO) and **smartDenture** is selected as the material.
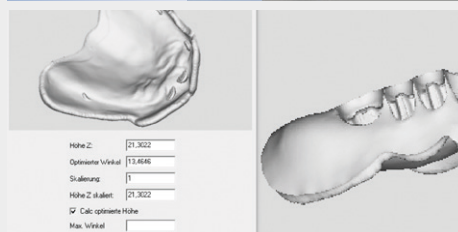
Now the preview window displays the loaded protheticbase_cad.stl file.

After confirming the loaded file, the monoblock file with teeth appears on the desktop. If you select the blank height, the denture base is displayed together with the teeth.

The digital brush function is used to mark all the areas on the tooth surfaces that are to be reoccluded or rearticulated later. The retaining bars are then applied and the tool paths are calculated.

This results in 2 milling files:
An **x.iso** and a **Part2.iso** file.

The iCAM V5 smart software automatically calculates the height of the blank to be used from the denture base plus teeth.
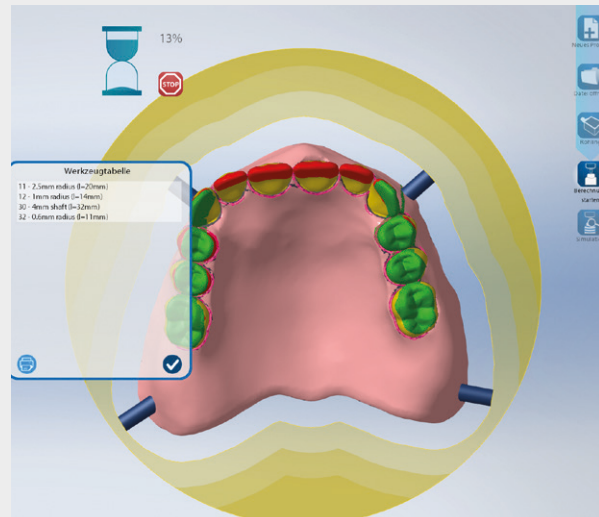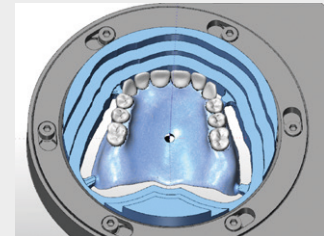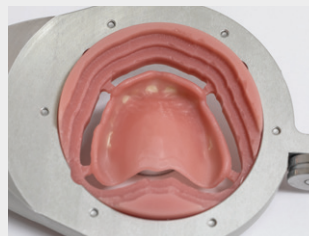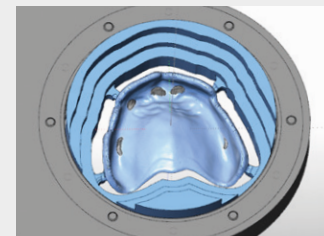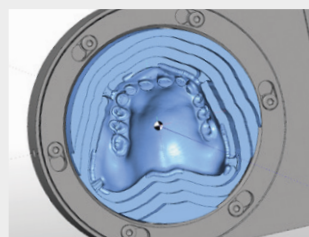

3. Milling of the denture base and insertion of the confection teeth
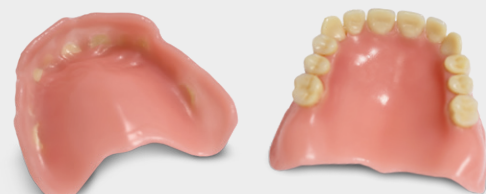

The denture base with the pockets to accommodate the confection teeth is now milled from the blank using the CORiTEC milling machine.

After this first milling process, the holder is released from the zero-point clamping system by pressing a button. The fabrication teeth are then fixed in the pre-milled tooth pockets.

To fabricate the underside of the denture, the holder is clamped again in the milling machine by the zero-point clamping system for an exact fit and the Part2.iso file is started. In order to maintain the correct occlusion and articulation, the marked tooth areas are milled simultaneously.

1. Initiated top of prosthesis

2. Milled top of denture

3. Insertion of the confection teeth

4. Initiated prosthesis underside

5. Milled underside of denture

6. Marked areas for correct occlusion and articulation

Result after cutting out and polish

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