

## 3D Export

*Note:* In program versions OnyxCeph<sup>3</sup>™ BASIC and 3D PRO, only 3D objects of type maxilla and mandible can be exported in open 3D formats. In program versions OnyxCeph<sup>3</sup>™ LAB and OMS, all 3D object types can be exported w/o limitations.

For the export of bracket bonding trays (IBT) designed in module Bonding Trays, a flat contact surface should be assigned.

### Export window

To export a single step or a series of steps, the 3D export window has to be opened either by icon button [Export Data] or from the context menu of panel Object List.

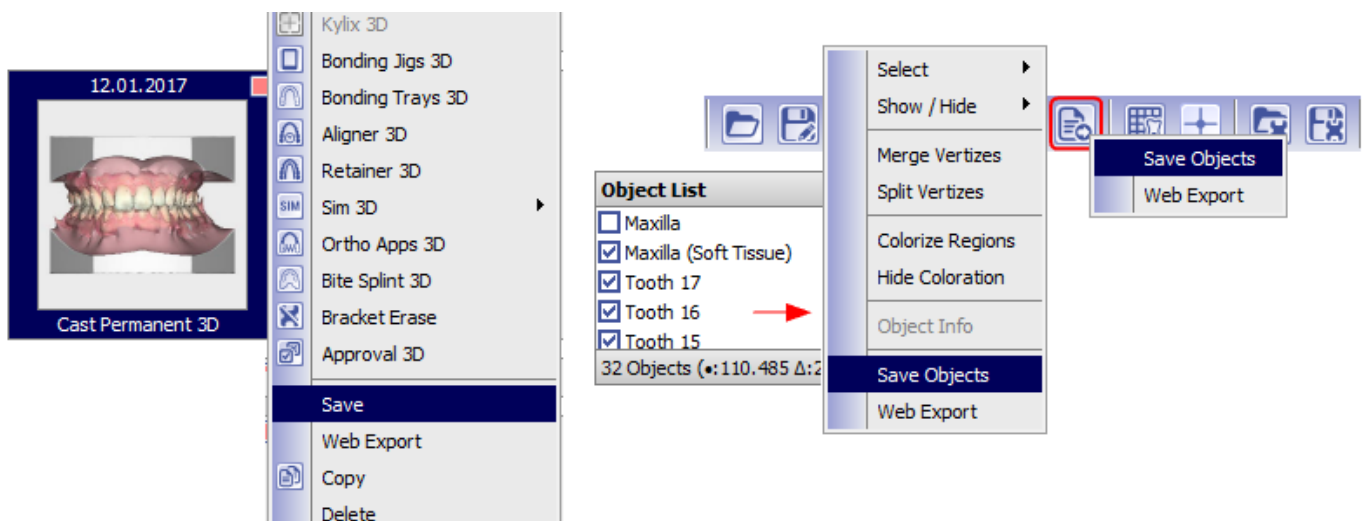


Fig. 1: Alternative menus to open the 3D export window

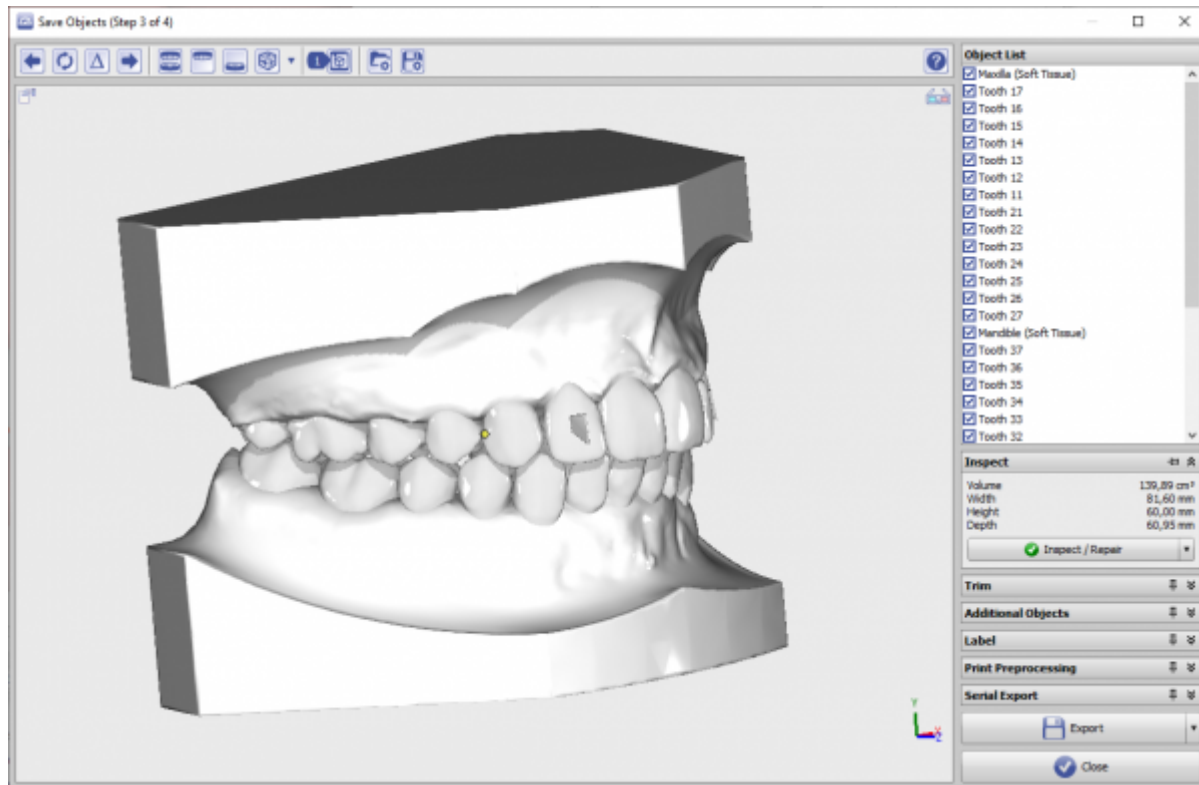


Fig. 2: 3D export window

## Icon bar



Fig. 3: Export window icon bar

- Switch to previous step
- Reload
- Step number increment for labeling
- Switch to next step
- Show maxilla only
- Show mandible only
- Switch 3D views
- Fabrication orders (if configured)
- Reload export settings
- Save export settings

## Panel Object List

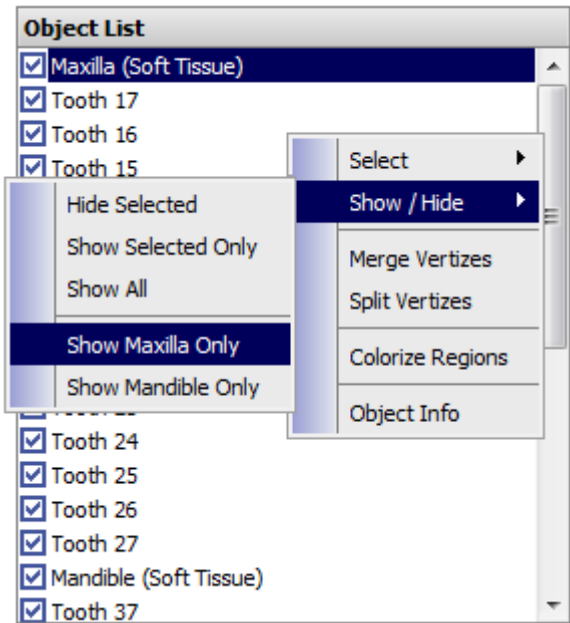


Fig. 4: Export window Object list

Lists all 3D objects which have been visible in the module window. Selection can be modified using the list context menu. Note that all active (displayed) objects will be exported by button [Export].

Panel Size

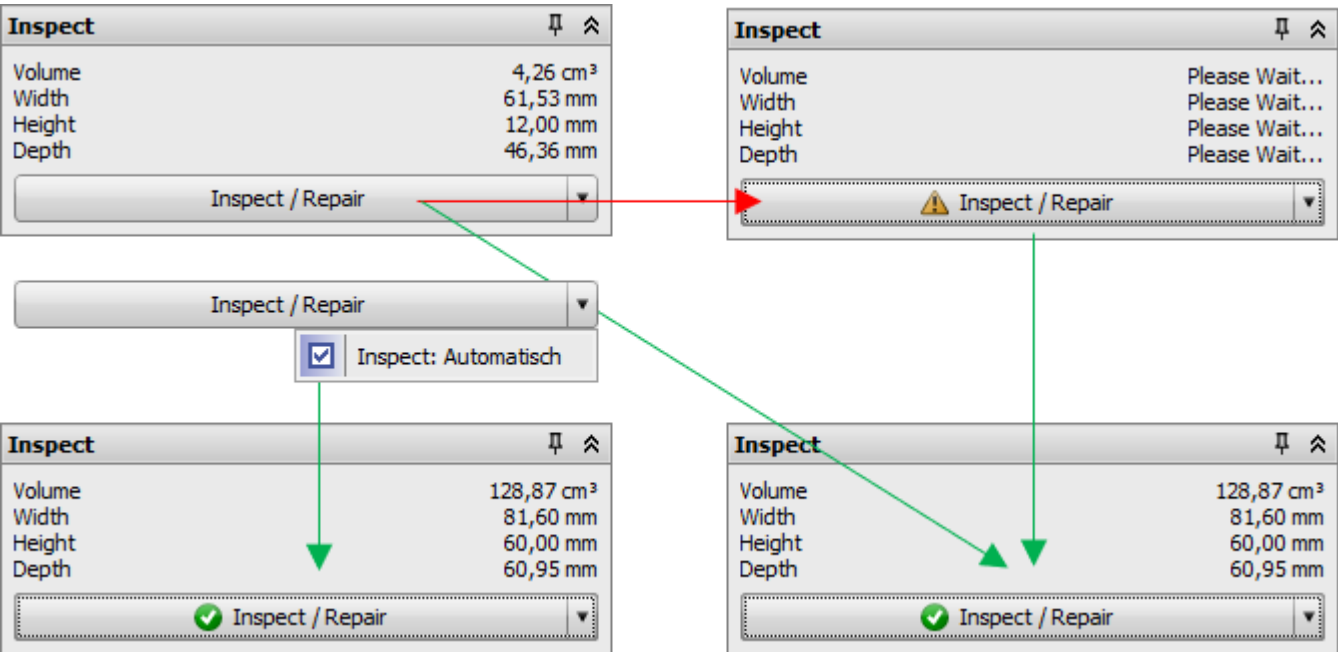


Fig. 5: Export window panel Size

Provides some metric measurements for the selected objects.

Panel Parallel Cut

Allows to clip the jaw objects in height and tilt by plain cuts and the transformation of the coordinate system

before exported.

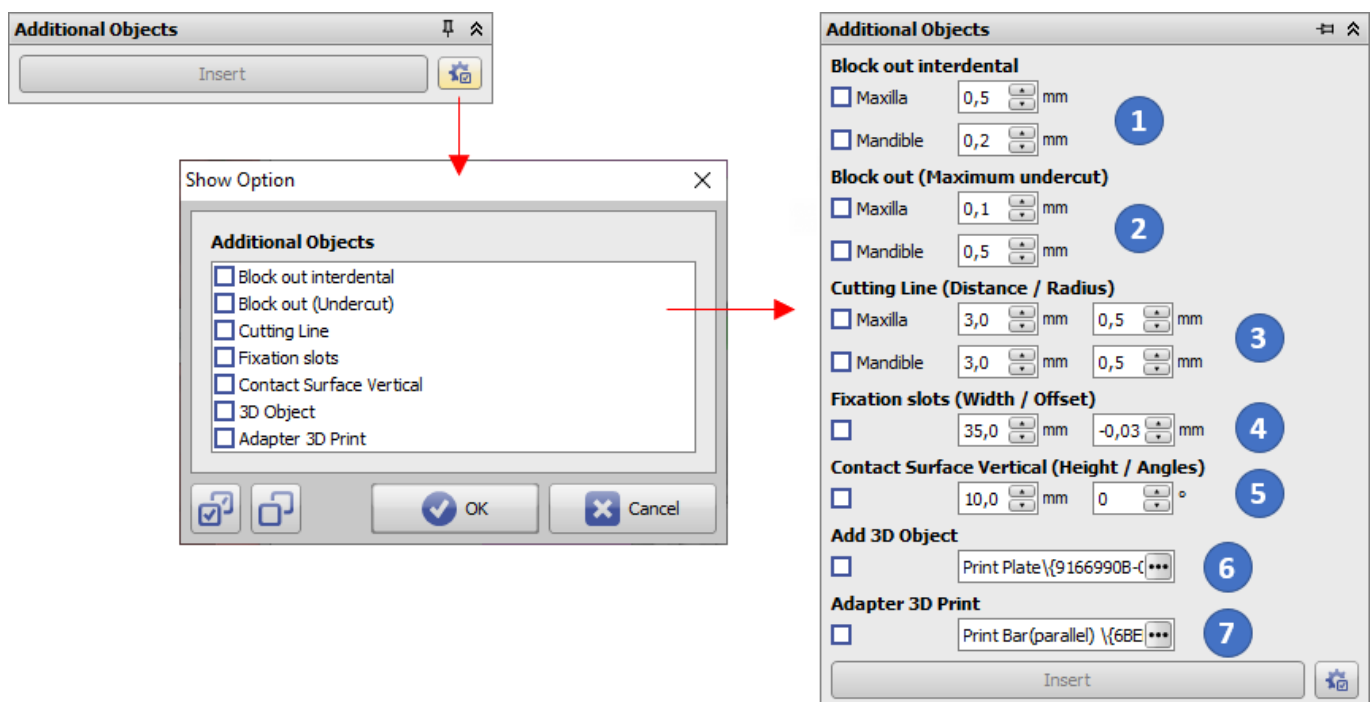


Fig. 6: Export window panel Parallel Cut

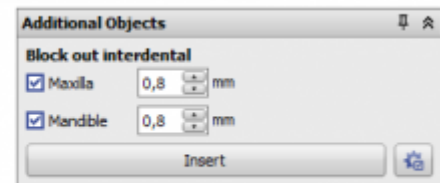
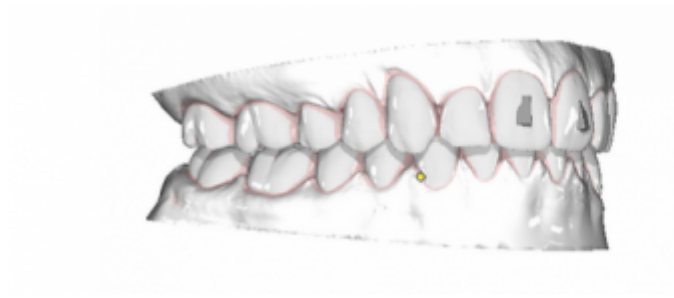
## Panel Additional Objects

The panel allows to add additional features for digital models. All but the first option are hidden by default and can be enabled by the configuration button:

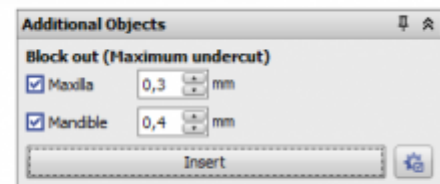
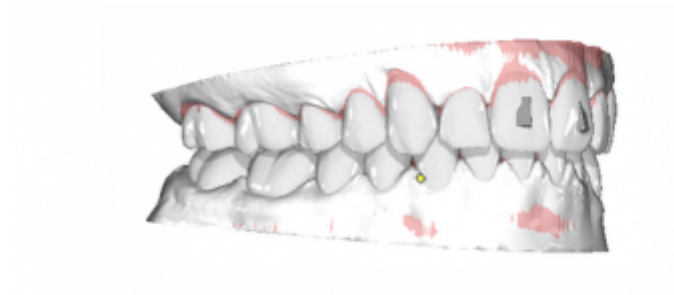
1. A defined amount of support can be filled in between the teeth of the upper and lower arch
2. A defined amount of support can be filled in to avoid vertical undercuts in upper and lower arch
3. Cutting lines for trimming the aligner after thermoforming
4. Fixation slots for [Hinz-Pins](#) to reposition occlusion
5. Objects from the user defined 3D object library relative to the model, e.g. for fixator adapters
6. Objects from the user defined 3D object library relative to the printing, e.g. for coordinate system adapters



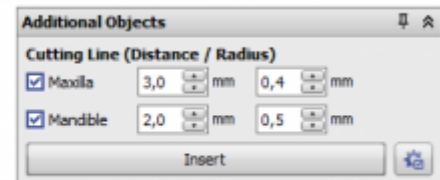
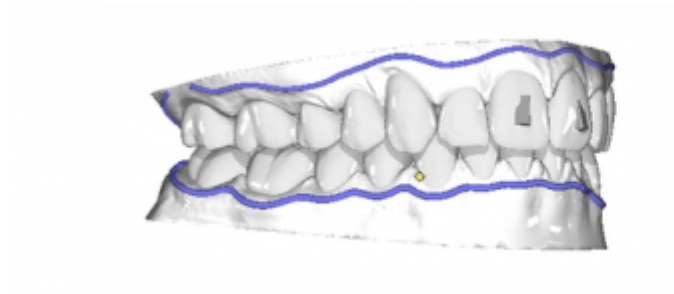
### Option 1: Block out interdental



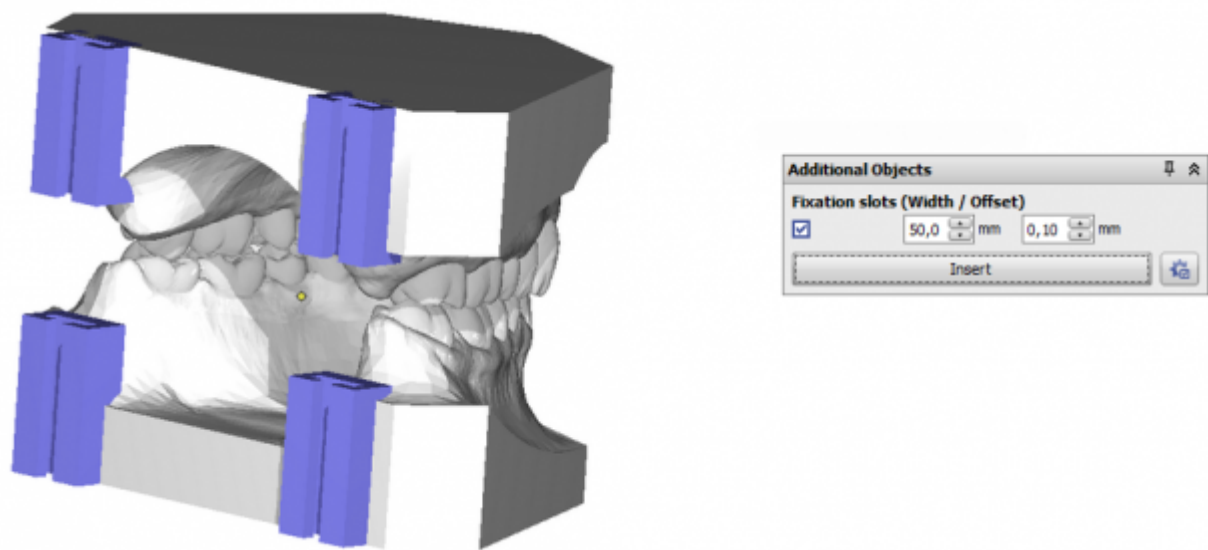
### Option 2: Block out (Undercut)



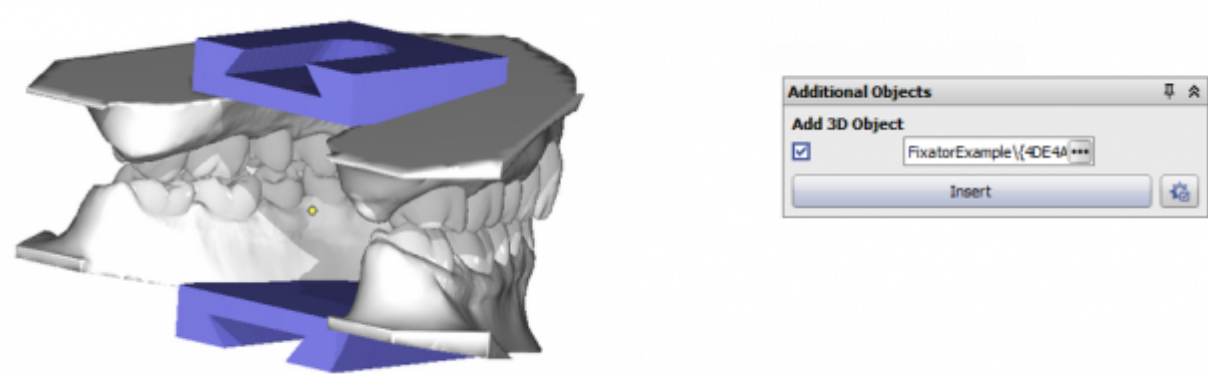
### Option 3: Cutting Line



### Option 4: Fixation slots



Option 5: 3D Object



Option 6: Adapter 3D Printt



Fig. 7: Export window panel Additional Objects

## Panel Label

Allows to put labels onto the object surface by right click before export. Labels can be created with different parameters for text width, height and decoration. Labels can use plain text or space holders, e.g.

- %1 → Patient ID
- %2 → Name
- %3 → First Name
- %4 → Date of birth format YYYYMMDD
- %5 → Gender
- %A → Model number
- %D → Social insurance number
- %S → Step number
- %X → TimeStamp YYYYMMDDHHMMSS

It is recommended to define label Height instead of Width to make sure same font size for different text lengths. The labels are displayed in edit mode (blue) first but must finally be inserted by button [✓].

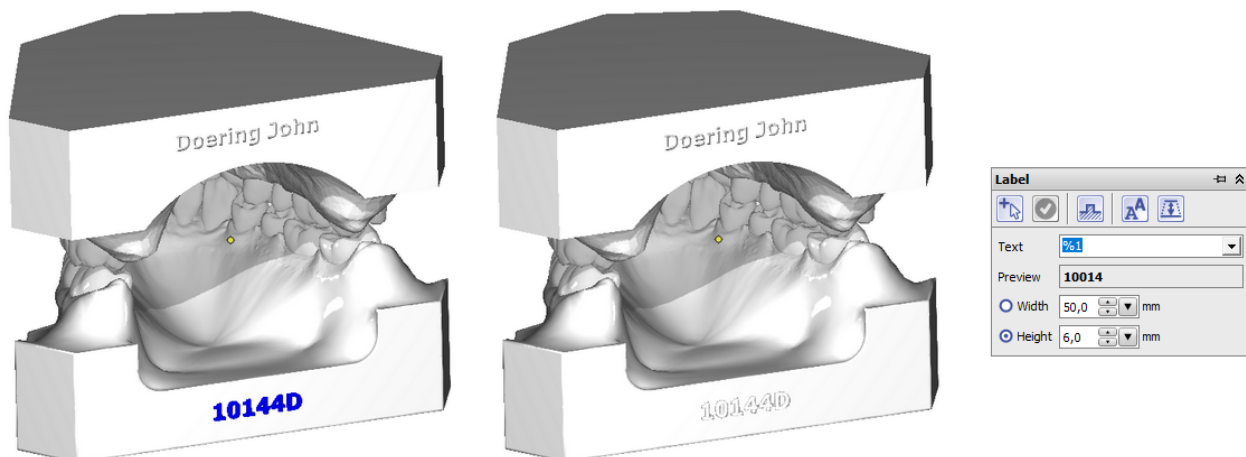


Fig. 8: Export window panel Label

## Panel Print Preprocessing

By using the option Print Processing, the dataset can be re-meshed into a single surface before export. This can be helpful in cases where the manufacturing device (e.g. the 3D printer) is not able to handle internal surfaces like roots or support material correctly.

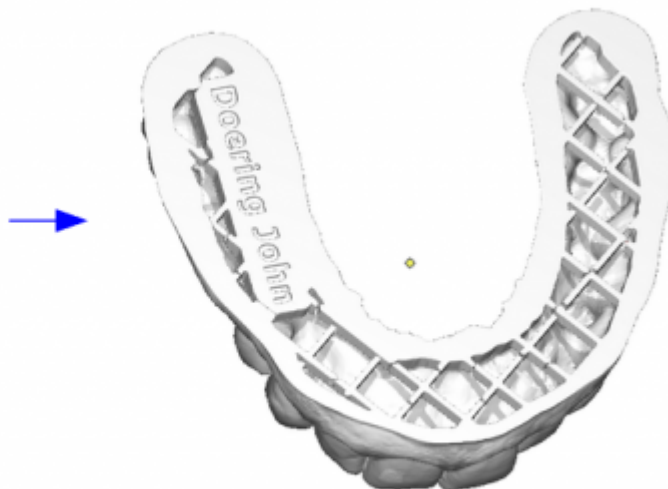
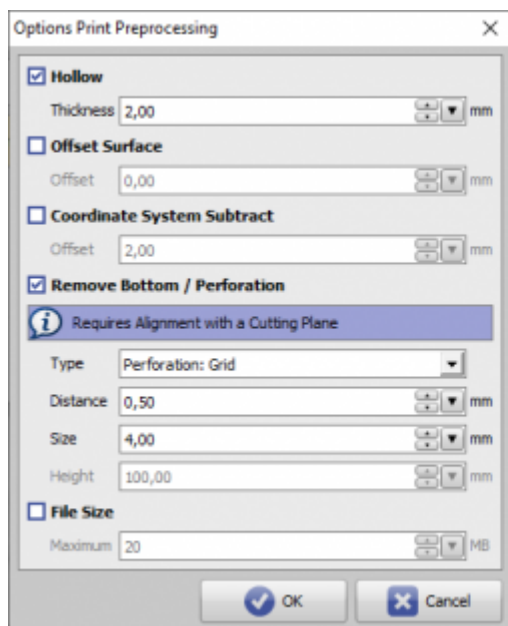
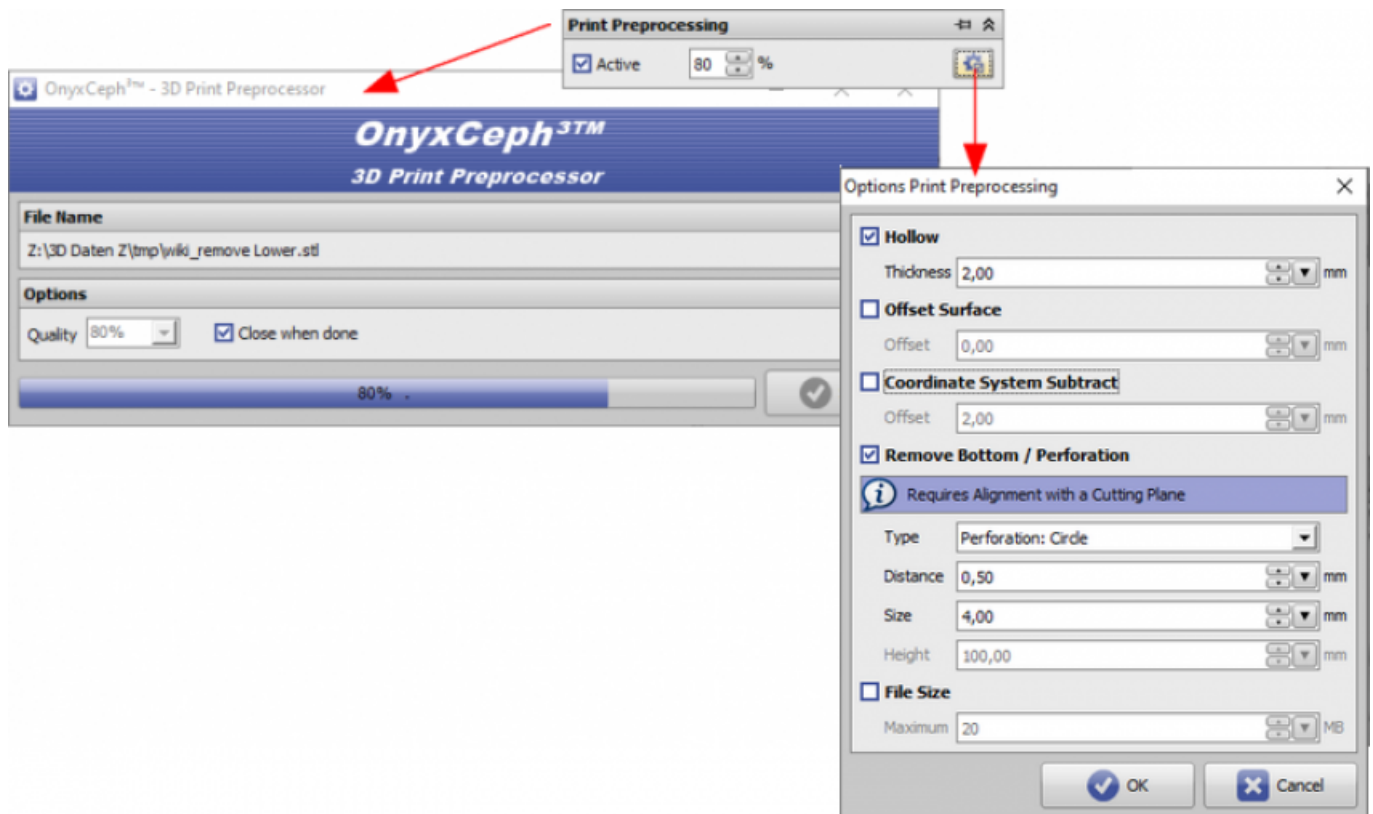
The mesh size is controlled by the selected percentage (... 200%). Selecting about 70% results in an optimum for quality and file size in most of the cases.

By the panel menu on the right, button an Options window is displayed where additional features like

- Print Hollow
- Add Surface Offset
- Remove Bottom / Add Perforation
- Set File Size Maximum

can be configured.

If print preprocessing is applied, all export processes run parallel as separate processes side by side - e.g. in serial export from module Aligner 3D.





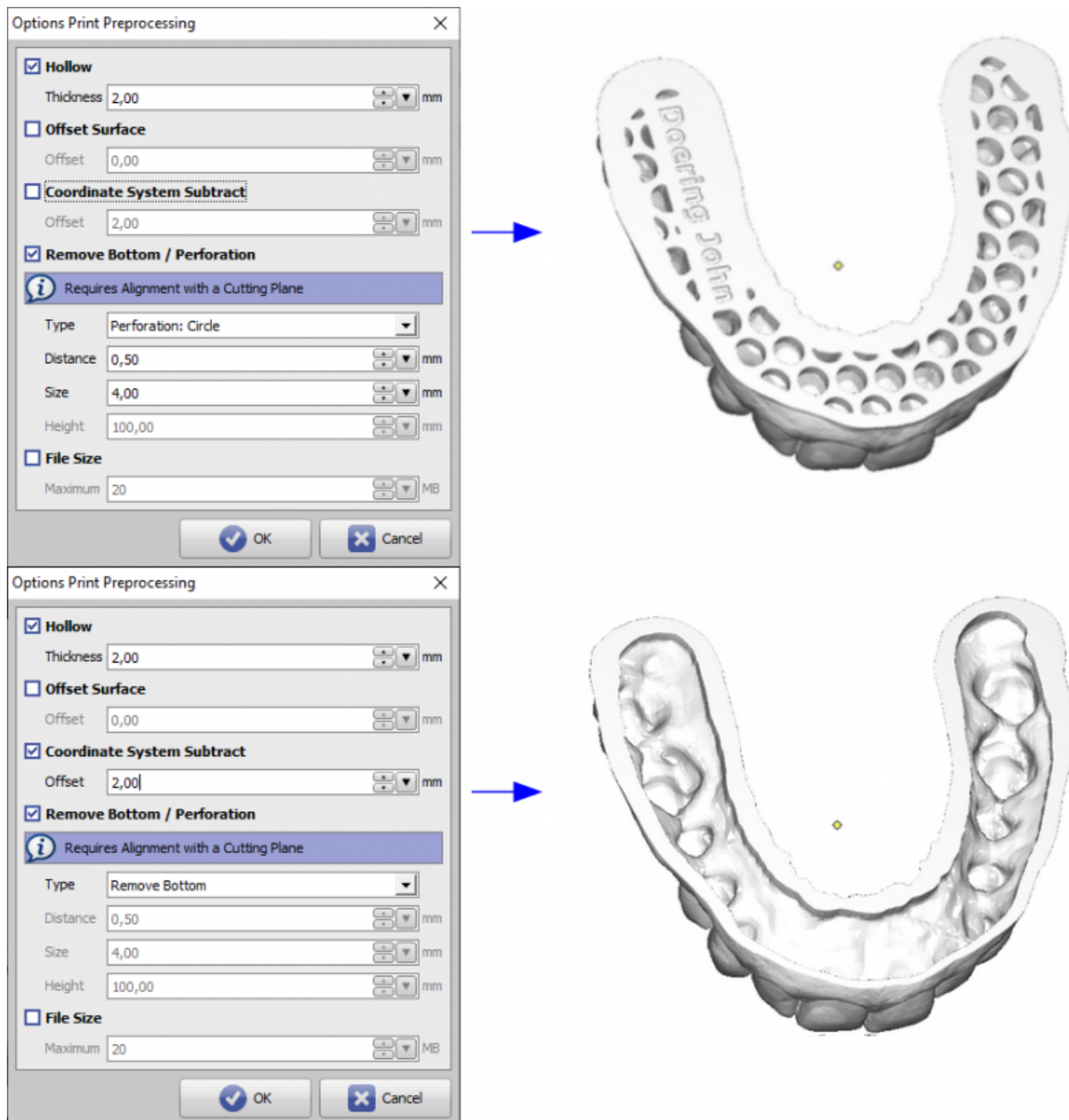


Fig. 9: Export window Print Preprocessing

## Checkbox Select All (Number of Steps)

This checkbox will only be available in module Aligner 3D. If it is activated, all selected treatment steps can be exported automatically as a series. All options (cutting, inserting support, labeling, print processing) have to be defined for one single step only (e.g., for the 1st one) to be applied the same way on all subsequent steps thereafter. If only a single jaw is visible, the sequence is exported only for this jaw, else it is exported and automatically labeled and named to separate files for maxilla and mandible.

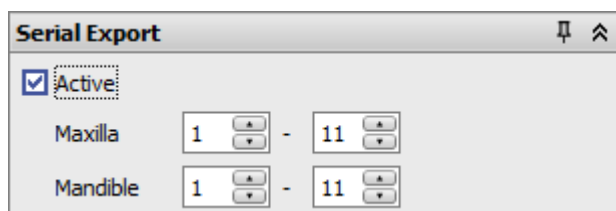


Fig. 10: Checkbox Select All (serial step export option)

*Note:* Checkbox [Select All] is only available if the Export window was opened from within module **Aligner 3D**.

## Export Formats

OnyxCeph<sup>3</sup>™ supports export in 3D formats

- STL
- OBJ
- ZPR
- PLY
- OFF
- DXF

*Note:* If Option Print Preprocessing (re-meshing) is selected, only STL format is available.

## Export of Bracket Bonding Trays (IBT)

If bracket bonding trays (IBT) should be manufactured by 3D printing technologies, one of the available design options for a flat contact surface should be used in Module Bonding Trays to avoid additional support for printing.

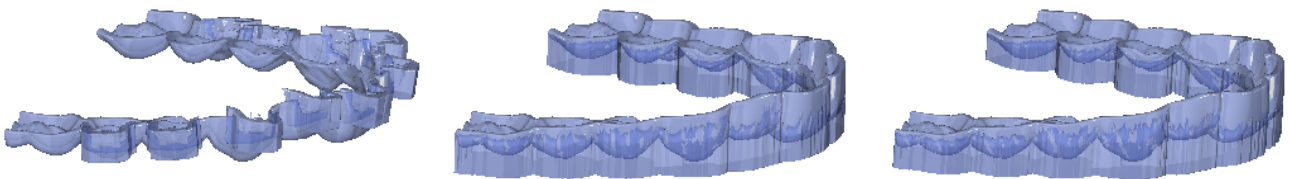


Bild 11: Available design options for IBT contact surface in modul Bonding Trays

### Hint

For manufacturing by service provider Dreve, a flat contact surface design is required by default.

## Verweise

 [youtube|Tutorial Aligner Step Export](#)

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