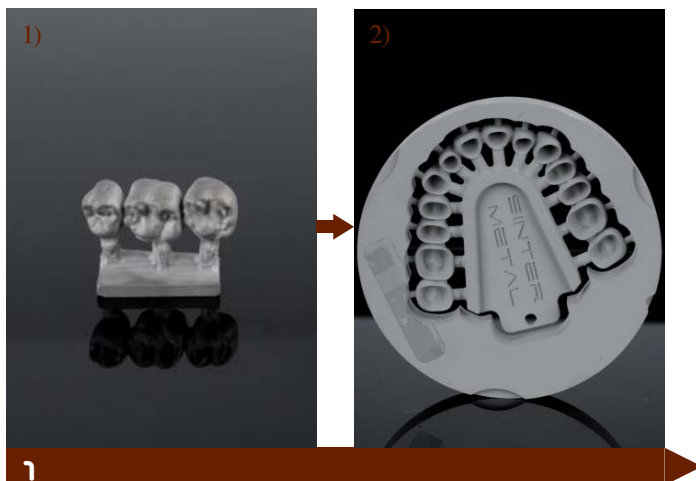


Sintering of Sintermetall

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Basically, the sintering process is divided in two different categories:

- 1) Small structures (= up to 8 elements)
- 2) Large structures (= full-arch bridges/bars/more than 8 elements)

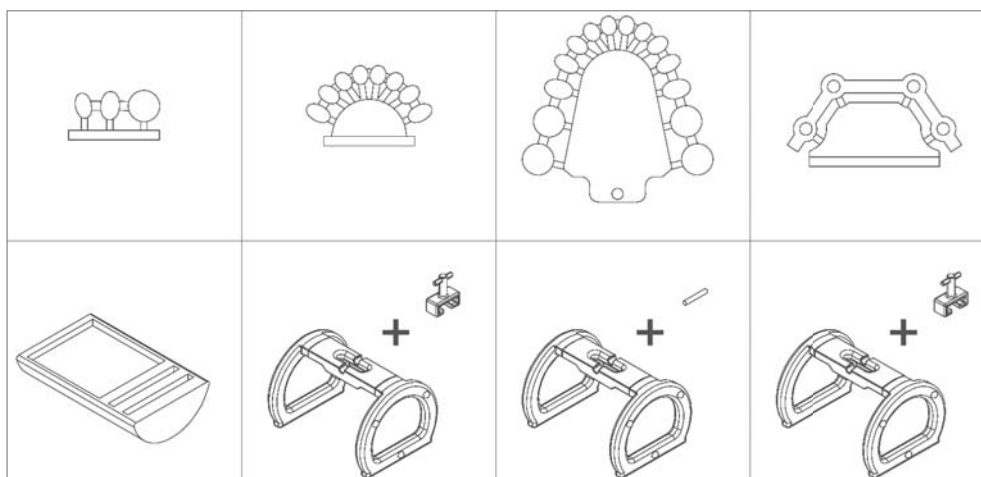


Small structures are sintered with the Sintering Tray Sintermetall.



Large structures are exclusively sintered with the Sintering Holder (patent pending).

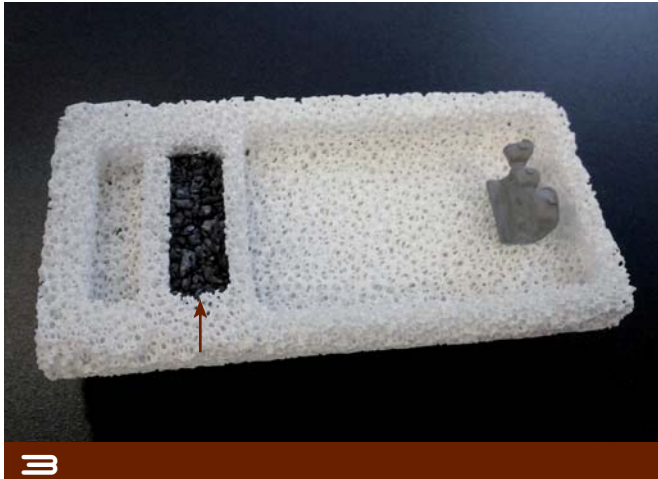
CAUTION: It is necessary to use a sintering base for all structures with 3 or more elements as well as a connector for each element ...



Sintering of Sintermetall

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Sintering of small structures with the Sintering Tray Sintermetall



The second hollow is filled up to two thirds with Sintering Powder. A standard teaspoon (not included in the scope of delivery) is suitable for this purpose.

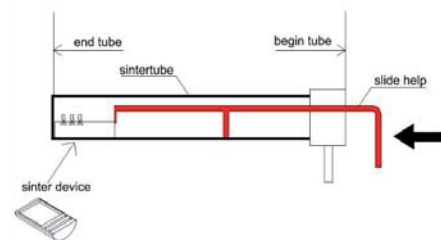
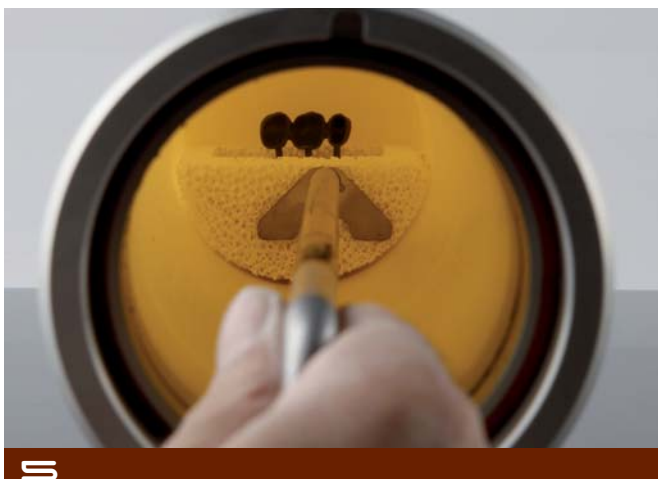
ATTENTION: Replace the Sintering Powder after each sintering process!

Place the structures as far forward as possible. If possible, arrange the parts crossways to the direction of insertion.

CAUTION: The structures must not contact with the Sintering Powder!

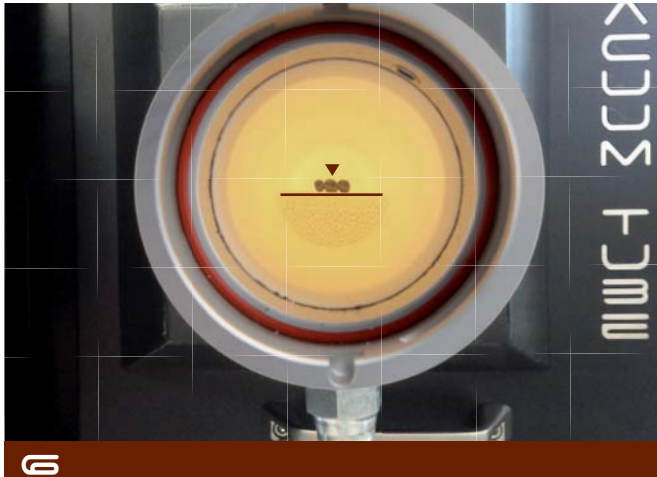


Gently push the Sintering Tray Sintermetall in the sintering tube (patent pending) and make sure that the workpiece does not topple.



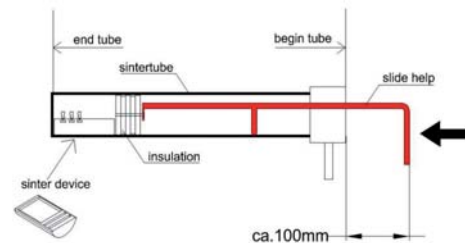
Gently push the Sintering Tray Sintermetall to the back panel of the sintering tube by using the hook. Ensure that the workpiece has not toppled!

Sintering of Sintermetall



The Sintering Tray Sintermetall should be positioned as horizontal as possible.

A pocket torch may be used for checking.



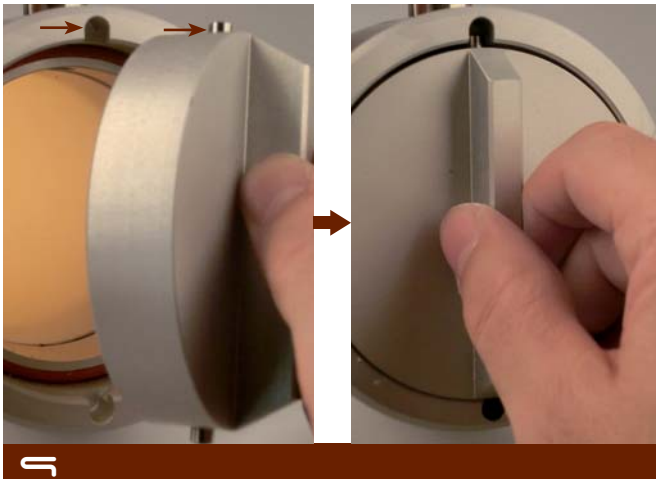
Push the thermal insulation in the sintering tube immediately afterwards and ...



... insert it until it reaches the back panel of the sintering tube by using the hook.

CAUTION: Before the lid of the sintering tube is mounted, ensure that the rubber gasket is clean. If there are dust or dirt particles on the gasket, these can be removed by simply blowing them off.

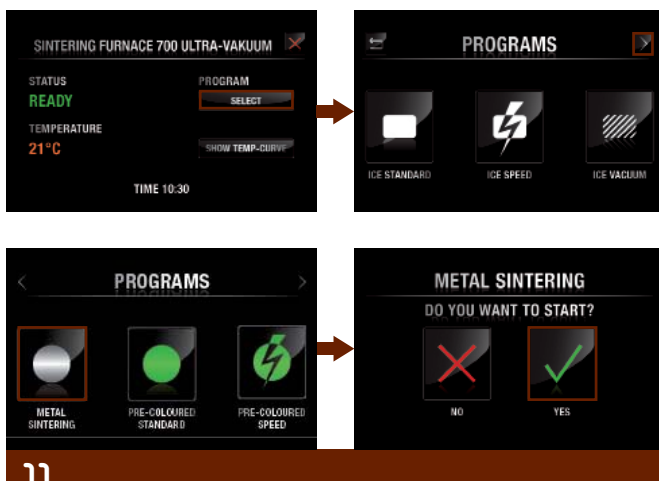
Sintering of Sintermetall



Position the lid of the sintering tube upwards with the lock pin and push it up to the stop.



Turn the lid towards right, until it is noticeable closed.
The preparations for the sintering are completed.



Start sintering program.

Select the program provided on the display, in order to start the sintering process:

- 1) Select
- 2) Metal Sintering
- 3) Yes

Subsequently, the vacuum pump automatically switches on, until the chamber is sufficiently evacuated. The oven enters the heating phase (Duration: 8 Hours).

Sintering of Sintermetall

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As soon as the sintering process is completed, the oven cools down and the sintering tube is flooded. Only now the lid of the sintering tube can be reopened by turning leftwards.

Remove the thermal insulation. For this purpose, at the front of the hook, a slot is located which can be positioned between the two nuts of the heat insulation in order to facilitate extraction.



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Following this, the Sintering Tray Sintermetall and the structure are extracted with the hook. It may happen that the Sintering Tray Sintermetall slightly sticks because of the sintering process. It is therefore recommended to gently tap the hook bar at the front of the Sintering Tray Sintermetall before extraction, until this can be slightly moved. Then, hook into one of the recess with the hook to extract Sintering Tray Sintermetall.

CAUTION: Depending on how much time has passed, the Sintering Tray Sintermetall and the workpiece may still be hot!



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The sintering process is now completed and the further processing steps can be carried out (sandblasting – applying of commercially available ceramics).

Sintering of Sintermetall

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Remove the Sintering Powder (can be disposed in the residual waste stream).

Make sure that the Sintering Powder is cooled down in order to prevent the risk of fire!

CAUTION: Replace the Sintering Powder after each sintering process!

Sintering of Sintermetall

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Sintering of large structures with the Sintering Holder



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CAUTION: It is necessary to use a sintering base for all larger structures as well as a connector for each element.

Insert the flap with the hole of sintering base through the slot in the **Sintering Holder (patent pending)** Sintermetall and ...



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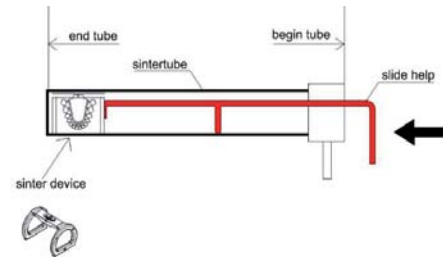
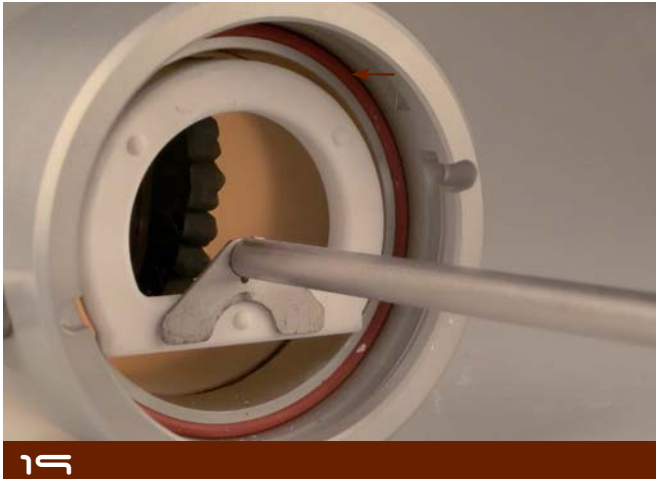
... fix it with the pin.



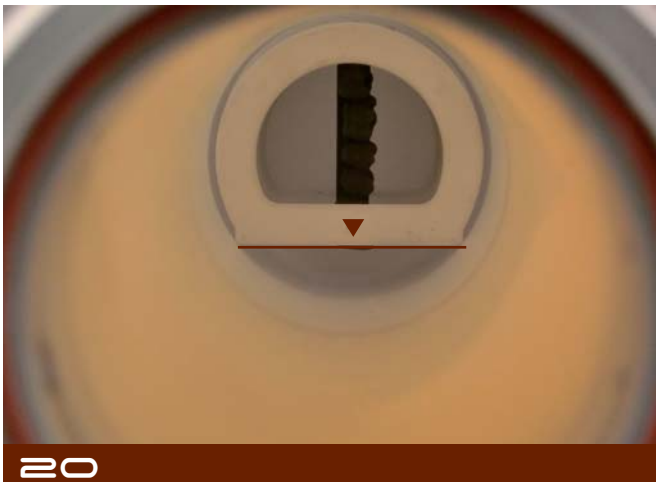
18

Position the Sintering Holder in the sintering tube, ...

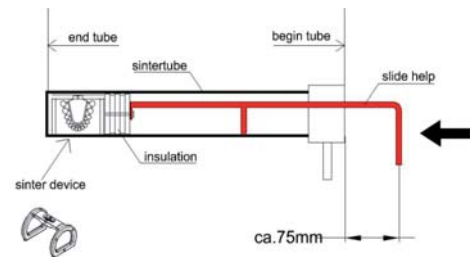
Sintering of Sintermetall



carefully push it to the back of the tube by using the hook.



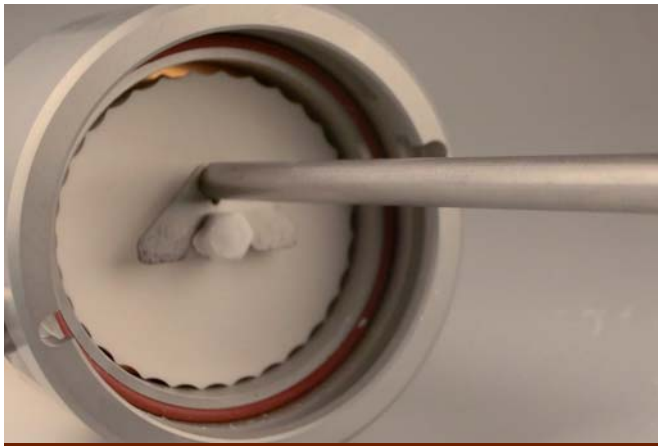
Make sure that the structure is positioned as horizontal as possible!



Position the insulator and ...

Sintering of Sintermetall

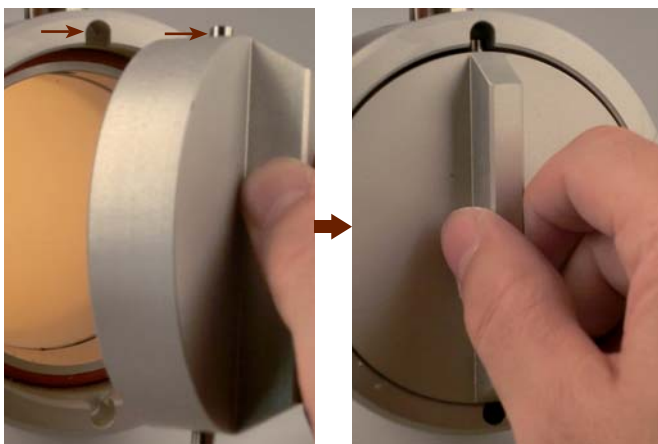
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... push it to back of the tube by using the hook.

CAUTION: Before the lid of the sintering tube is mounted, ensure that the rubber gasket is clean! If there are dust or dirt particles on the gasket, these can be removed by simply blowing them off.



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Position the lid of the sintering tube upwards using the lock pin and push it up to limit stop.



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Turn the lid towards right until it is noticeable closed..

Sintering of Sintermetall

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Start the sintering program.

Select the program provided on the display in order to start the sintering process:

- 1) Select
- 2) Metal Sintering
- 3) Yes

Subsequently, the vacuum pump automatically switches on, until the chamber is sufficiently evacuated. The oven enters the heating phase (Duration: 8 Hours).



As soon as the sintering process is completed, the oven cools down and the sintering tube is flooded. Only now the lid of the sintering tube can be reopened by turning leftwards.

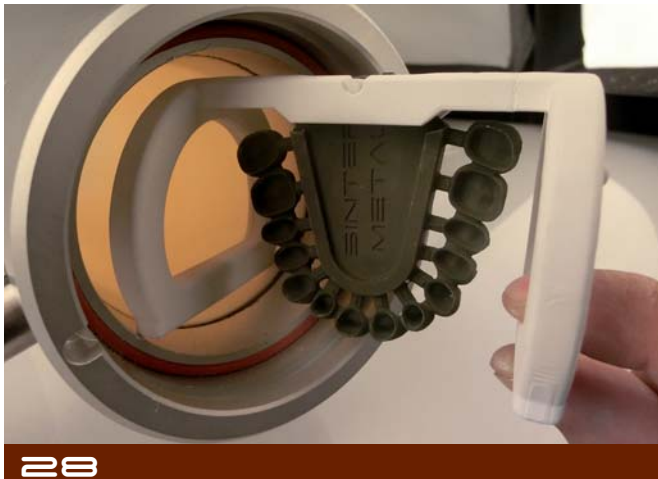
Remove the thermal insulation. For this purpose, at the front of the hook, a slot is located which can be positioned between the two nuts of the heat insulation in order to facilitate extraction.



Following this, the Sintering Holder and the sintered structure are extracted with the hook. Mount the hook at the lower transverse skein of Sintering Holder and gently extract.

Sintering of Sintermetall

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Extract the Sintering Holder together with the pieces and ...



... remove the bolts.

The Sintering Holder can be used for further sintering process.



Every 20 firings it is recommended to carry out a firing only with the Sintering Tray containing Sintering Powder and without any structures.

To carry out a so called neutralizing firing the third hollow is filled up to two thirds with **SINTERING POWDER (ZBAC2181)**. A standard teaspoon (not included in the scope of delivery) is suitable for this purpose.

ATTENTION: Replace the Sintering Powder after each sintering process!

Sintering of Sintermetall

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Follow the instructions DRAA3001 for the proper carrying out of a neutralizing firing.

Therefore please contact our technical customer support.

(T +39 0474 066 630)

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