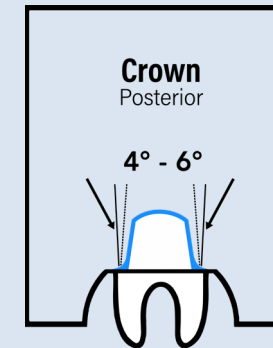## Tooth preparation

- Make sure to create a stump with a 4° - 6° cone. Round off all the transitions within the preparation to avoid unwanted tension under the restoration material.

- Also make sure to avoid tangential, spring edge or lip preparations. Therefore, exercise special care when using instruments with a round tip and do not introduce them any further than up to half their diameter at maximum! Please note that tangential preparations are technically unfeasible and would result in too thin, i. e. instable and overcontoured, crown margins.

- The preparation limit must have a width of at least 1 mm.

- Both a shoulder preparation with rounded interior angles and a distinct chamfer preparation may be carried out. Rework the preparation margin using finishing instruments of matching shape.
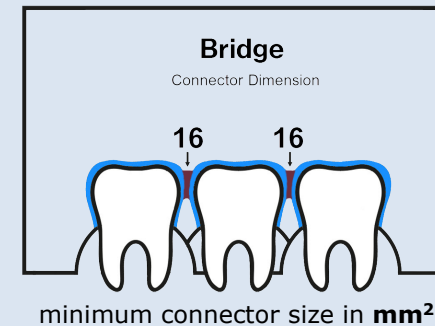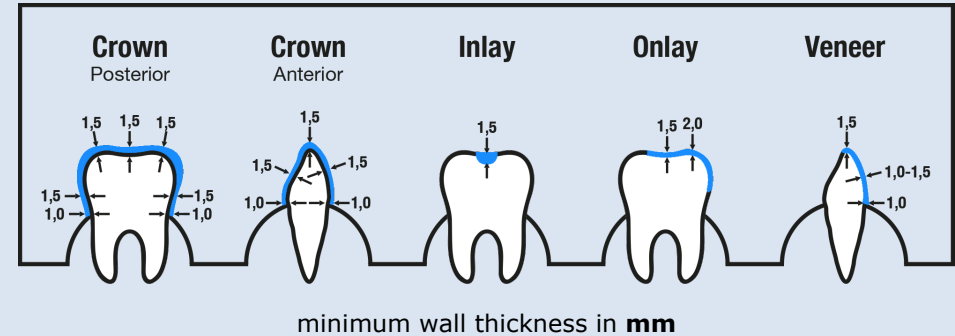
Crown
Posterior

4° - 6°

1

Please note: This graphic representation does not replace the instructions for use. You are still obliged to consult the instructions for use carefully.

Model the workpiece on the computer

- Permanent crowns, inlays, onlays, veneers:
  Always keep the minimum wall thickness – even after manual grinding
  (The dimensions apply also to artificial teeth and temporary crowns, inlays, onlays and veneers)

minimum wall thickness in **mm**

- Temporary bridges:
  Keep a connector size of at least 16 mm^2

  The connector area should be as large as possible.
  For physical stability, the height of the connector is more important than the width. Doubling the width results in only doubling the strength, while doubling the height results in eight times the strength.
  Oval connector areas are therefore recommended.

minimum connector size in **mm²**

Please note: This graphic representation does not replace the instructions for use. You are still obliged to consult the instructions for use carefully.

Generate the printing file

Use the appropriate software (Netfabb) and use the latest Rapid Shape Engine. Deliver it in a suitable form to the printer by observing the instruction for use of the software and of the printer.
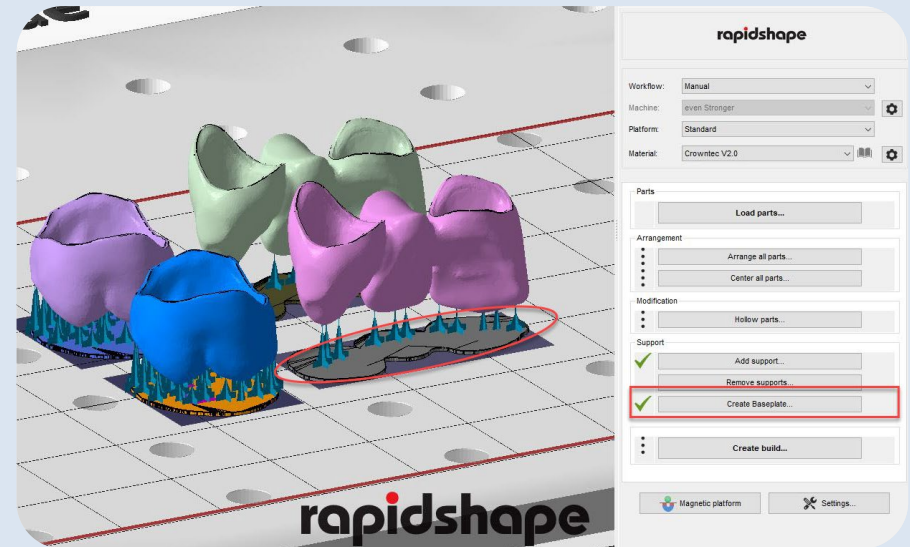
Note

Customers with a maintenance contract can find the current Rapid Shape Engine with the new material parameters in the Knowledge Center at **www.kc.rapidshape.de**.

Useful hints

Make sure that you do not position the building objects over the holes, in the middle of the platform you will find the stump area without holes. If you need to position objects over the holes, we recommend to use the baseplate function in the Rapid Shape workflow and create a shadow based 0.3mm thick baseplate.

Create the supports on the occlusal surface, our recommendation is to use the predefined support script for Crown&Bridge.


Printer type serves as an example

Please note: This graphic representation does not replace the instructions for use. You are still obliged to consult the instructions for use carefully.

Print

- Work as clean as possible. Dirty or damaged material reservoirs and dirty machines can cause deformation/discoloration. Briefly shake the resin and pour it into the tray of the printer
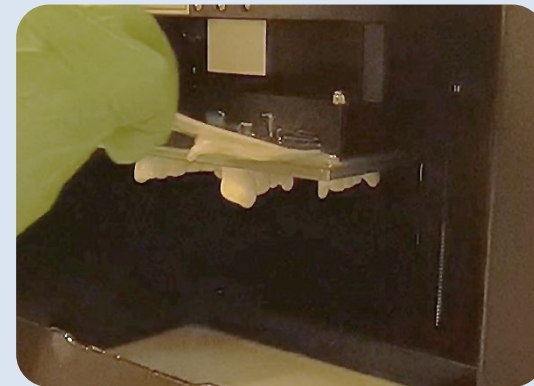
- Start the printing process

Note

Before starting printing, make sure that the printer together with the resin has reached operating temperature. A cold start must be avoided.
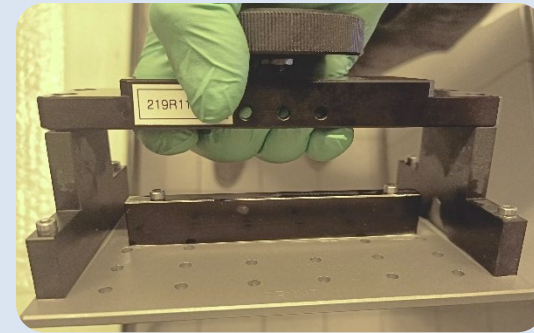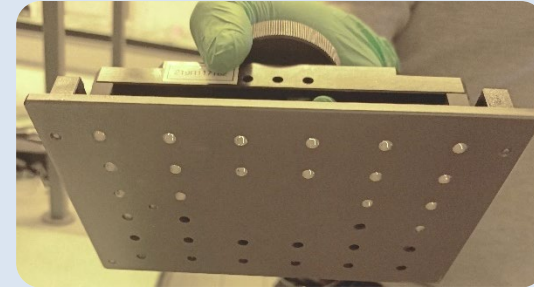
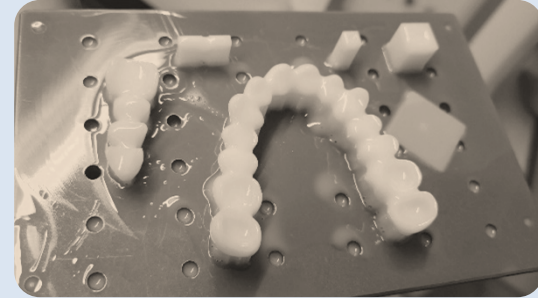**Clean the printed job by following every step carefully**

- Clean the building platform with a suitable spatula

Please note: This graphic representation does not replace the instructions for use. You are still obliged to consult the instructions for use carefully.

- Remove the building platform from the machine, place it on a cloth or paper

- Remove the printed object carefully from the platform
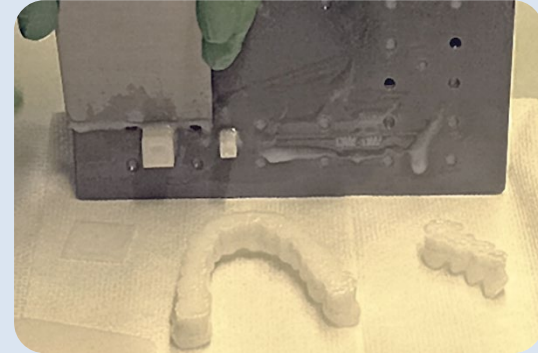
- Roughly snap off the supports

Please note: This graphic representation does not replace the instructions for use. You are still obliged to consult the instructions for use carefully.

- Remove excessive material with an alcohol-soaked (96 %) cloth or brush

- Clean the interdental areas and the interior surfaces of the crown with a suitable alcohol-soaked (96 %) brush, until the surface is lightly matt

Note
Never soak the printed job into alcohol.

Freshly printed
Surface: glossy
Inside: glossy
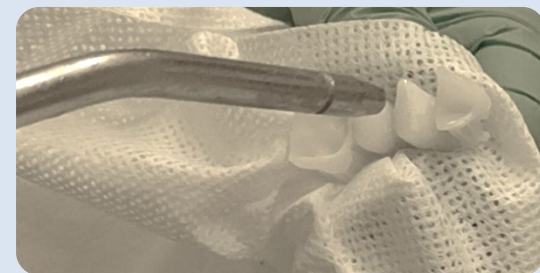
Not enough cleaned
Surface: slightly matt
Inside: glossy

well cleaned
Surface: slightly matt
Inside: slightly matt

- Dry thoroughly with an air syringe

Please note: This graphic representation does not replace the instructions for use. You are still obliged to consult the instructions for use carefully.

Optional step

- Carefully sandblast the printed part surfaces to remove the remaining coating using a sandblaster with polish blasting material 50 µm at a maximum blasting pressure of 1.5 bar

- Grind down the remaining blunt supports with a suitable cutter

Note

Take care to avoid any deformation or damage of the printed job.

Optional step – Individualization of the crown or tooth

Apply intensive colors e.g. *els paintart* from SAREMCO.

Finish the printed job - Cure

- Polymerize in an appropriate UV-light box with a wavelength of 320 – 500nm. Suggestion: "Signum HiLite Power" from Haereus Kulzer (2 x 180 s) or UV-Flash device "Otoflash G171) from NK-Optik (2 x 2000 flashes; turn objects between the exposure cycles)

- Make sure that the light device performs still with the adequate light-power

Note

To achieve the desired material properties, biocompatibility and final shade, post-curing of the completely dried and cleaned job is necessary.

Useful hint

Speed up the color finalization by placing the printed job into boiling water (100 °C) for 2 minutes after post-curing.

Finish the printed job – Polish

- Work out the restoration with 40μ and 12μ diamond burs

- Polish to a high gloss using polishing brushes, polishing discs, strips or silicone polishers

Please note: This graphic representation does not replace the instructions for use. You are still obliged to consult the instructions for use carefully.

Attach – permanent crowns, inlays, onlays or veneers to the tooth

- Roughen the inside of the printed object by sandblasting with an abrasive (Al_2O_3, 110µm)

- Then, fix it definitively with an appropriate composite cement material. Panavia V5. (Kuraray) and Variolink (Ivoclar) are recommended

Note
Zinc-phosphate cements as well as glass-ionomer-cements are only of limited suitability due to their opacity.

or

Attach – temporary crowns, bridges, inlays, onlays or veneers to the tooth
Attach the finished temporary prosthesis with a commercially available provisional cement.

or

Please note: This graphic representation does not replace the instructions for use. You are still obliged to consult the instructions for use carefully.

Attach – artificial teeth on a denture base

- Roughen the base surface of the printed artificial teeth for e.g. by sandblasting (Al$_2$O$_3$, 110µm)

- Apply a primer and a bonding material, insert in the prosthesis according to the natural shape and polymerize

  Alternatively, CROWNTEC or DENTURETEC can also be used directly as bonding material. Put a small amount of material with a brush on the roughened teeth-surface of the artificial tooth, put it into the prosthesis, eliminate any excess material and light-cure it from all sides for at least 20 seconds.

or

Please note: This graphic representation does not replace the instructions for use. You are still obliged to consult the instructions for use carefully.

SAREMCO

Attach – artificial teeth in a denture base (classical manufacturing)
Use a classical manufacturing procedure like the pouring method with cold cure resin after roughening the teeth.
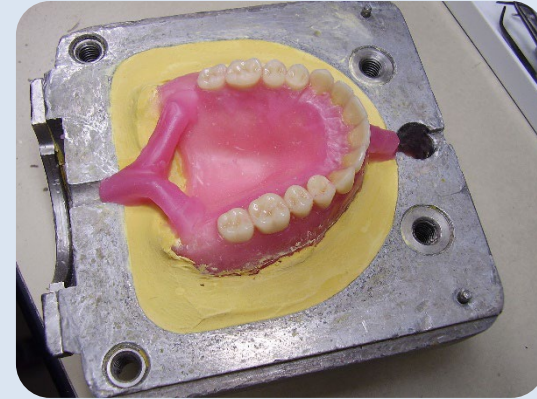
https://de.wikipedia.org/wiki/Datei:Making_of_complete_denture_04.JPG#filelinks

SAREMCO Dental AG
Gewerbestrasse 4
CH-9445 Rebstein / Schweiz
Tel: +41 (0) 71 775 80 90
Fax: +41 (0) 71 775 80 99
info@saremco.ch
www.saremco.ch

Please note: This graphic representation does not replace the instructions for use. You are still obliged to consult the instructions for use carefully.