

# Master models Master models

## Functional model fabrication

Frank Beck  
Christian Pilz

All rights reserved.

© 2005 by Renfert GmbH

Reproductions, translations, microfilms or storage and electronic processing – including extracts – are not permitted without prior permission in writing from Renfert and may lead to prosecution.

---

Dear Reader,

Model fabrication is rightly regarded as a key factor in the initial image presented by a dental laboratory.

The reason for this is that the work of a dental laboratory is based on accurate model fabrication. Errors in model fabrication are reflected in all subsequent work and can only be rectified later with great difficulty and at considerable cost.

The aim of this model fabrication manual is to examine this important stage in routine dental laboratory work. It is the second in the Renfert series and follows the manual on waxing up technique. For those involved in model fabrication this manual explains step by step the individual working stages, which are generally clearly illustrated by highly detailed photographs.

The authors decided not to focus on models that have to be completely perfect on removal from the impression. Instead the aim is to produce sound, highly skilled work within the normal time limits available to a dental laboratory. Success in functional model fabrication depends increasingly on optimally combining time, function and aesthetics.

This manual is not only intended for beginners or those who feel a little unsure, but also for those who simply want to improve their technique.

We hope you find this manual interesting.

***Your Renfert Author Team***

---

# Contents

## Contents

		Page
<b>1</b>	Pouring the impression	3
<b>2</b>	Trimming and pinning	9
<b>3</b>	Basing	15
<b>4</b>	Sawing	20
<b>5</b>	Articulating	25
<b>6</b>	Troubleshooting	29
<b>7</b>	Types of plaster	31
<b>8</b>	The main impression materials	32
<b>9</b>	Equipment and materials used	34

# Pouring the impression



After unpacking the impression, remove any tissue debris with a brush under running water ...

**Caution:**  
*Always wear gloves!*



... and then place the impression in a disinfectant.

**Tip:**  
*Use 2 containers:  
1 for the opposing dentition impressions  
1 for the preparation impressions*



Reduce the sublingual flanges and buccal sections of the lower impression with a scalpel.



Also cut the buccal sections and palate of the upper impression.



Prepare impressions according to the type of impression supplied and material used.

Spray silicone impressions with a silicone wetting agent before pouring.



Polyether impressions (*Impregum™, Permadyne™*) should be rinsed briefly under running water (*plaster clings firmly to dry polyether producing a rough stone surface*).

**Note:**  
*Polyether materials should never be conditioned with wetting agent.*

### Option A:

Measure the correct amount of distilled water in a measuring cylinder according to manufacturer's instructions ...



## Option B:

### ... recommended option:

or weigh on the scales. The scales are then set to zero again for weighing the stone.

**Note:** 100 ml = 100 g



Then sprinkle the stone powder loosely into the bowl and allow to soak (10-15 seconds).

First thoroughly premix the stone manually, ...

#### **Tip:**

*Use the automatic premix function on your mixing unit to obtain an optimum mixture.*

... then attach the mixing bowl to the vacuum mixing unit ...

#### **Note:**

*Allow the vacuum to build up before starting the mixing paddles (use the premix function if required, see above) to ensure a homogeneous, bubble-free mixture.*



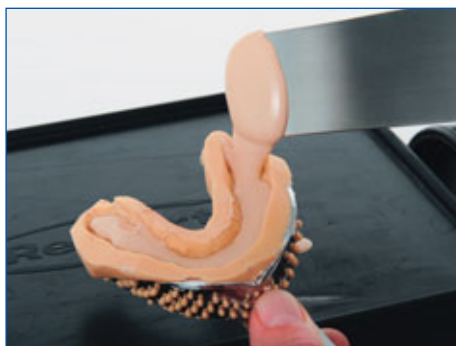
... and mix the stone thoroughly for approx. 60 seconds at 350 rpm (*adhere to the manufacturer's instructions!*).

**Note:**

*It is essential to use different mixing bowls and mixing paddles for dental stone and investments!*



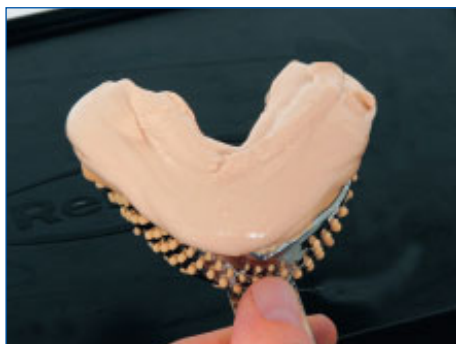
Hold the impression on the edge of the vibrator and pour the teeth carefully in dental stone using a probe to just above the preparation margin on the lowest vibrator setting.



The impression can then be filled evenly with stone from one side using a spatula.

**Note:**

*Never place the mixing bowl on the vibrator, as the stone would segregate!*



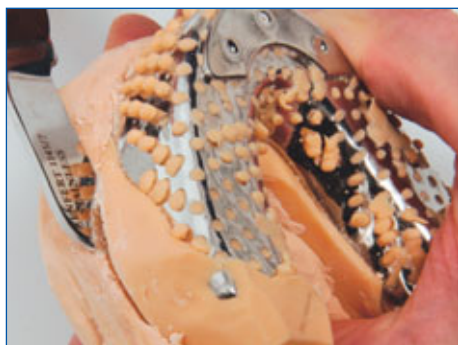
Once the stone has a creamy consistency, build up the dental arch without using the vibrator. The result is a stable, large dental arch.





Place a vacuum-forming foil on the stone to attain a flat base surface.

**Caution:**  
Remove the foil after setting to allow the water to evaporate from the stone!



After the stone has set, raise the lower tray slightly from the buccal side with a plaster knife.



Then loosen the impression tray evenly on all sides ...



... and lift it from the model over the anterior.



**Tip:**  
*When removing a custom tray,  
carefully separate the tray  
with a cutting disc to avoid  
breaking any teeth.*



First loosen the upper impression in the premolar region with a plaster knife.



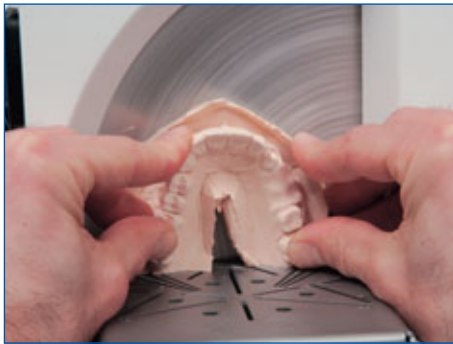
Then loosen the tray at the back before lifting it from the model over the anterior.

# Trimming and pinning

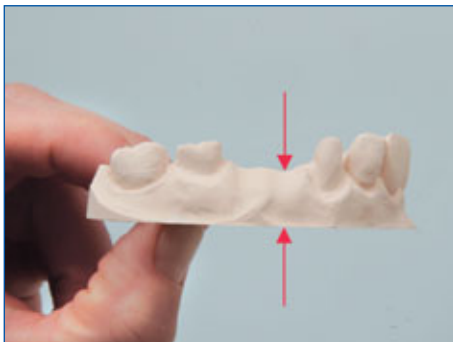
## Trimming and pinning



First reduce the dental arch on the trimmer at the back ...



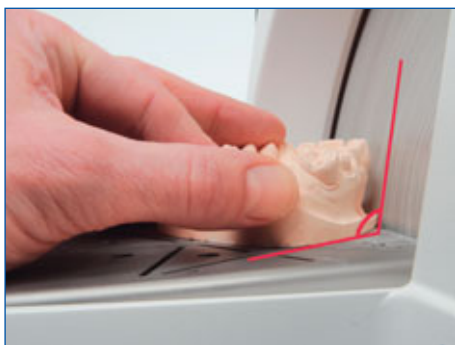
... and then to the correct height at the base.



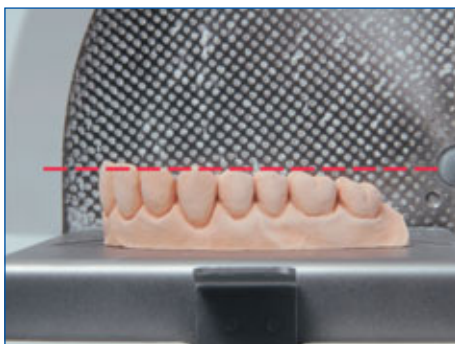
A minimum height of 8-10 mm [0.315-0.394 inches] (especially at tooth gaps / bridge units) is essential to avoid the risk of fractures!



Then trim the outer contour of the dental arch.



Angle the trimmer table if the anterior teeth are severely inclined.



**Note:**  
The occlusal plane should be parallel to the plane of the table.



### Option A:

Trim the dental arch conically with a cutter or arbor band at a low rpm from the lingual resp. the palatal side.

**Option B:**

Trim the dental arch with a dental arch trimmer.



***Note:**  
Using a conical rotary cutter makes it easier to remove the sawn segments later from the model.*

Then determine the individual segments of the arch.



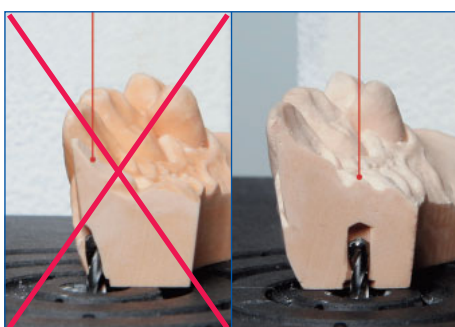
**Basic procedure:**

All crowns, bridge units and adjacent teeth should be pinned. The rest of the dental arch should also be supported by at least two pins.

First mark the central position of the pinhole.



***Note:**  
Take into account the axial inclination of the teeth and alveolar ridge.*



wrong

right



Mark the planned saw cuts of the model segments.



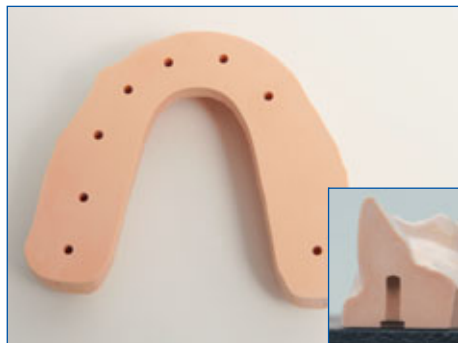
The saw cuts should be parallel to ensure the model sections can be easily removed.



Position the model on the work plate of the pinhole drilling unit and point the laser beam on the marked pinholes.



Hold the model with both hands on the unit housing and press it down with the work table. When the table is lowered, the drill spindle of the *Top spin* rotates automatically.



Result:  
With both single-head pins, e.g. the *Bi-Pin*, ...



... and single pins, e.g. the *Smart-Pin*, pinholes are drilled exactly at right angles to the base surface.

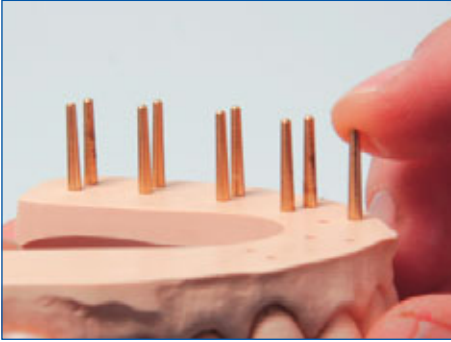
**Note:**  
Use the correct drill for the different pins (refer to the Renfert catalogue).



Clean out the pinholes with compressed air and check that the pins fit flush.



Coat the pins with a thin layer of instant glue (a pin holder is recommended for a precise technique) ...



... and glue them flush in the dental arch.



After the adhesive has set, place rubber caps on the pin ends to protect them and to provide orientation when determining the pin position.



The rubber caps should fit flush on the pins.



# Basing Basing



3



The *Pin-Cast* model system comprises ❶ base formers (two sizes), ❷ rubber sleeves (three heights), ❸ magnets for the base plates and ❹ retention discs for the articulating plates.



Select the appropriate base former and place the magnet on it.



## Fabricating the base plate:

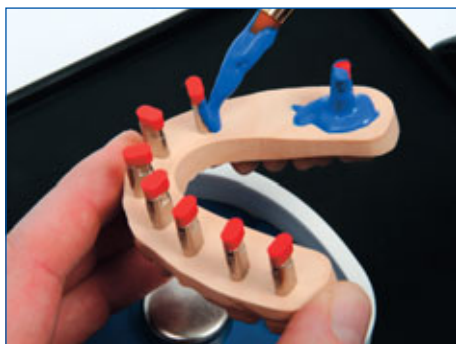
Select the rubber sleeve according to the length of the pins and secure it on the base former.



Mix the base stone in a vacuum mixing unit according to the mixing ratio given by the manufacturer.



While the stone is mixing, spray the dental arch with *Isifix* separating agent (plaster to plaster) and rinse it off after allowing a short reaction time.



Precoat the pins on the vibrator with stone using a spatula or brush.



Then immediately pour the base stone flush with the top edge of the sleeve using a vibrator.



Place the dental arch inclined on the vibrator at the lowest vibrator setting ...



... and lower slowly onto the base former.



After the plaster has set, remove the base former from the rubber sleeve.



### Constructing the articulating plate:

Place the retention disc on the magnets and separate the split-cast base with *Isofix*.

3



Use a second sleeve and place the model on it to protect the teeth.



Then fill the split-cast mould with base stone.



***Tip:***  
*Use bubble wrap to provide the base plate with the necessary retention for the articulating plaster when articulating (see page 26/27).*



Remove the rubber sleeve from the model after the stone has set.

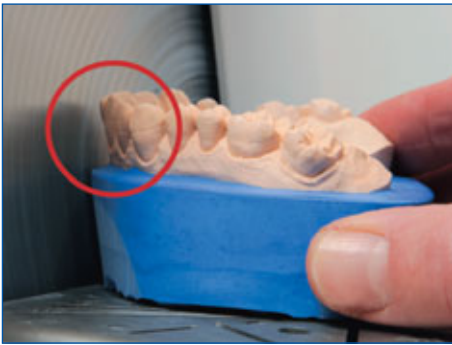
***Caution:***  
*Do not separate the base plate and articulating plate at this stage!*



First lightly trim the base of the split-cast level on the trimmer.



Then trim the outer contour of the model to the correct shape.



Position the trimmer table at an angle to ensure that no anterior teeth are inadvertently trimmed.



This results in a uniform outer contour of the model both for the base plate and the articulating plate.

# Sawing Sawing



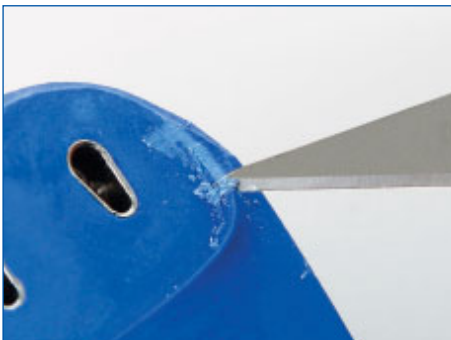
4



Before sawing, loosen the model from the articulating plate, remove the rubber caps and then replace the model on the articulating plate.



For a visual control of the marginal gap, cut a deep bevel in the junction area between model base and dental arch with a plaster cutter.

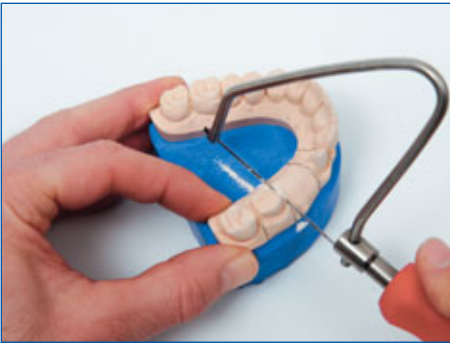


To replace the dies with precision, remove the work block from the base and break the inner margin of the base with a scalpel.

### Option A:



Make the first saw cut with a handsaw at the adjacent teeth of the preparation area.



Replace the dental arch in the base and follow the markings with the saw cuts.

**Note:**

*Saw blades are thicker than a Plastercut (see option B).*

### Option B:

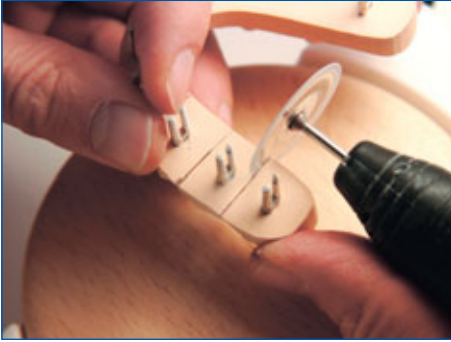


Alternatively use a bench saw or *Plastercut* disc for sawing. When sawing with a *Plastercut*, extend the lines for the saw cuts onto the base surface.

**Caution:**

*Always use extraction and a face mask when sawing with a Plastercut – preferably in a dust box!*

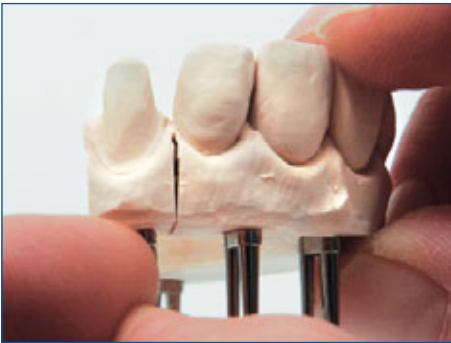




Saw the dies starting at the base with the *Plastercut* at approx. 10,000 rpm ...



... to just before the preparation margin, ...



... and then snap them off from the dental arch.

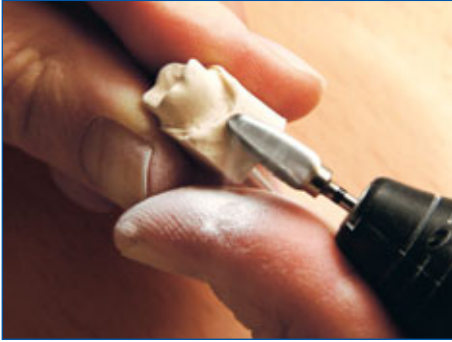
**Note:**

*The stone connection to the adjacent plaster segment forms a thin lamella in the area of the die preparation. The preparation margin is automatically exposed without any damage by snapping off the die.*



Then clean the stone dust from the die with a brush and compressed air.



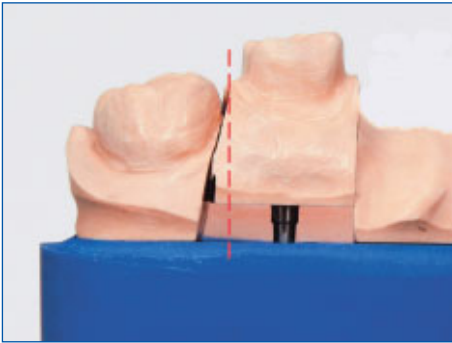


Smooth the approximal and buccal surfaces with a crosscut plaster trimmer.

***Important:***  
*The palatal / lingual surfaces  
should remain intact!*



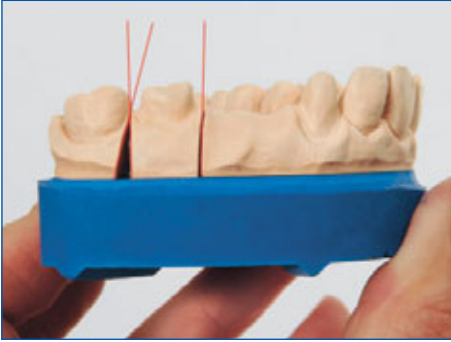
Then check that the individual segments can be easily removed from the base without interference.



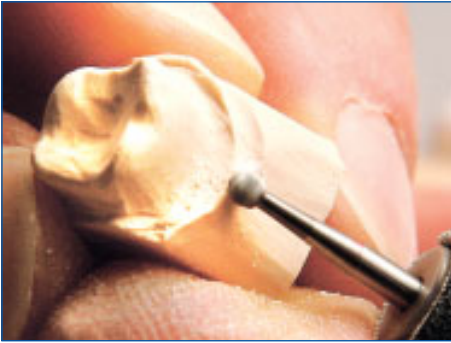
***Note:***  
*If the dies cannot be easily removed, the  
bridge pattern will distort when lifted!*



Adjust the outer surfaces as required with a plaster trimmer ...



... to ensure that the model segments can be removed without interference.



Then carefully expose the preparation margin with a round bur under a microscope.



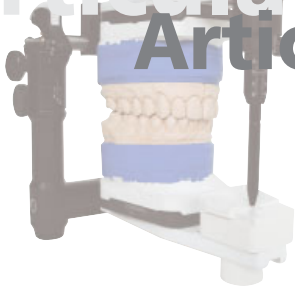
Clean the stone dust from the die again with a brush or compressed air. Die sealer and spacer can now be applied to the dies.

*Information on applying die sealer and spacer is given in the waxing up manual.*



Result:  
The sawn and sealed master model.

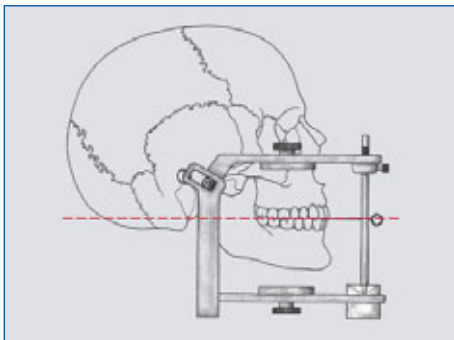
# Articulating Articulating



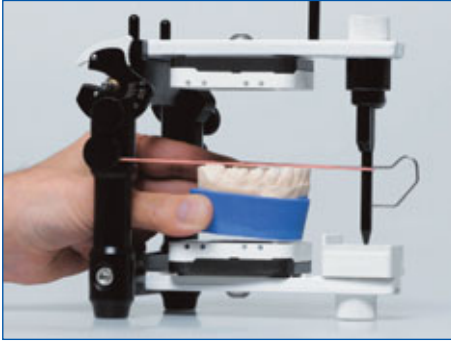
First remove any bubbles from the occlusal surfaces of the upper and lower models with a sharp scalpel.



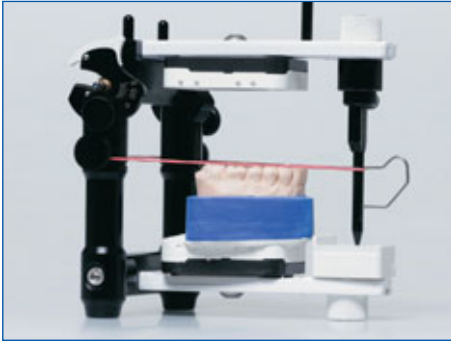
**Note:**  
*If a silicone bite is used for articulation, it should be reduced to the impression of the cusps with a scalpel.*



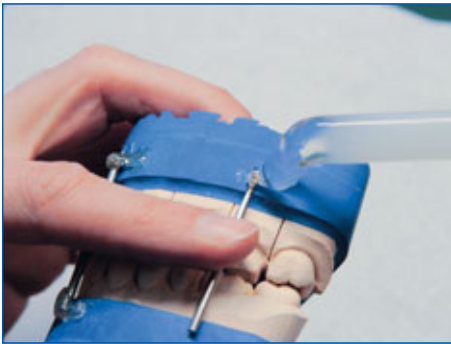
Articulate the models parallel to the horizontal plane in a plain-line or adjustable articulator.



Attach a rubber band to ensure the model is parallel to the horizontal plane.

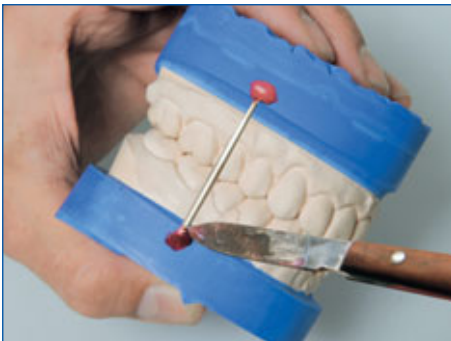


Mount the lower model with articulating plaster and align the occlusal plane to the rubber band.



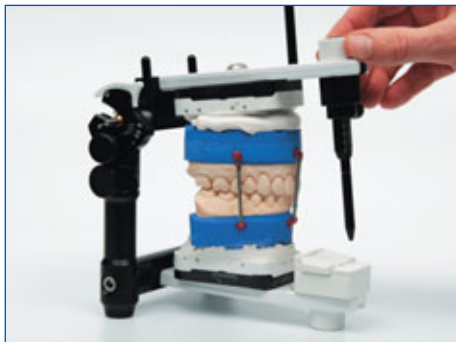
### Option A:

Fix the upper and lower models together using a glue stick and an old bur ...



### Option B:

... or alternatively fix them together with sticky wax.



After the lower articulation base has set, articulate the upper model with plaster.



Check the accuracy of the articulation by loosening the upper model from the articulating plate and removing the magnet.

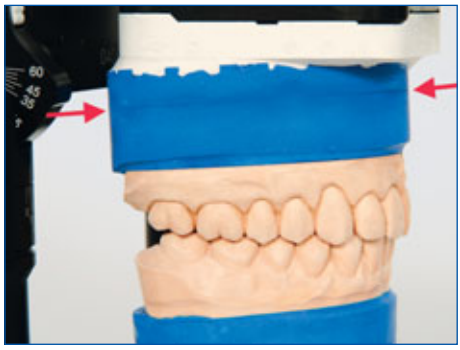


Then replace the upper model on the lower model ...

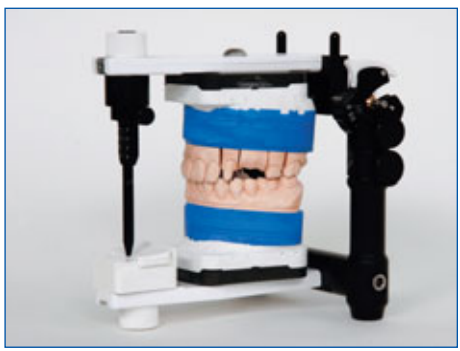


... and carefully close the articulator.

5



**Caution:**  
There should not be any gap at the split-cast base!



The split-cast guarantees an accurate check of the articulation!



The next stages, i.e. efficient waxing up of crowns and bridges, are explained in our **waxing up manual**, which can be ordered free of charge (see back cover page).

# Troubleshooting

## Troubleshooting

Problem	Cause	Remedy
Plaster sets too slowly.	<ul style="list-style-type: none"> <li>• Impression was not cleaned of blood etc.</li> <li>• With hydrocolloids: impression was not immersed or only briefly immersed in a potassium sulphate solution.</li> </ul>	<ul style="list-style-type: none"> <li>• Clean the impression thoroughly.</li> <li>• Immerse for a minimum of 10 minutes.</li> </ul>
Plaster sets too quickly.	<ul style="list-style-type: none"> <li>• Set plaster residue on the spatula and/or in the mixing bowl.</li> <li>• Too little water used for mixing.</li> </ul>	<ul style="list-style-type: none"> <li>• Always use clean bowls and instruments.</li> <li>• Adhere strictly to the manufacturer's instructions, always use distilled water.</li> </ul>
Plaster forms lumps.	<ul style="list-style-type: none"> <li>• Plaster was stored unsealed.</li> <li>• Set plaster residue in mixing bowl.</li> </ul>	<ul style="list-style-type: none"> <li>• Plaster is hydrophilic, so always store airtight.</li> <li>• Always clean the mixing bowl thoroughly.</li> </ul>
Final hardness of plaster is too low.	<ul style="list-style-type: none"> <li>• Salt was added to speed up the setting time.</li> <li>• Too much water was used for mixing the plaster.</li> <li>• Plaster was mixed for too long.</li> </ul>	<ul style="list-style-type: none"> <li>• Never use additives in the mixing water.</li> <li>• Adhere strictly to the water ratio given by the manufacturer.</li> <li>• Adhere strictly to the mixing time given by the manufacturer.</li> </ul>
Some surfaces of the model are soft.	<ul style="list-style-type: none"> <li>• Mixing bowl was on the vibrator during pouring.</li> <li>• Impression was vibrated too strongly.</li> </ul>	<ul style="list-style-type: none"> <li>• Never place the mixing bowl on the vibrator.</li> <li>• Always use the vibrator on the lowest setting.</li> </ul>
Surface of the model is porous.	<ul style="list-style-type: none"> <li>• Plaster powder was not sprinkled in properly.</li> <li>• Vacuum pump and mixing paddles were started at the same time.</li> </ul>	<ul style="list-style-type: none"> <li>• Always sprinkle in the loose plaster powder.</li> <li>• Build up the vacuum before starting the mixing paddles.</li> </ul>

# Troubleshooting

## Troubleshooting

6

Problem	Cause	Remedy
Smears in the plaster.	<ul style="list-style-type: none"> <li>• Mixing bowl was on the vibrator during pouring.</li> <li>• Vibrator setting was too high.</li> <li>• Mixing time in the vacuum mixer was too short.</li> </ul>	<ul style="list-style-type: none"> <li>• Never place the mixing bowl on the vibrator.</li> <li>• Always pour impressions on a low vibrator setting.</li> <li>• Allow a minimum mixing time of 60 seconds.</li> </ul>
Cracks in the model.	<ul style="list-style-type: none"> <li>• Plaster was mixed with too little water.</li> <li>• Water removed from the model during setting.</li> </ul>	<ul style="list-style-type: none"> <li>• Adhere to the manufacturer's instructions.</li> <li>• Do not place the model on paper during setting.</li> </ul>
Raised bite.	<ul style="list-style-type: none"> <li>• Trimmer water was used instead of distilled water.</li> <li>• Salt was added to speed up the setting time.</li> </ul>	<ul style="list-style-type: none"> <li>• Always use distilled water.</li> <li>• Never use additives in the mixing water.</li> </ul>
Marginal gap between the dental arch and base.	<ul style="list-style-type: none"> <li>• Base plaster was mixed for too long.</li> <li>• Excess / incorrect separating agent used.</li> </ul>	<ul style="list-style-type: none"> <li>• Adhere to the mixing times.</li> <li>• Always use the special plaster separating agent.</li> </ul>



# Types of plaster

## Types of plaster

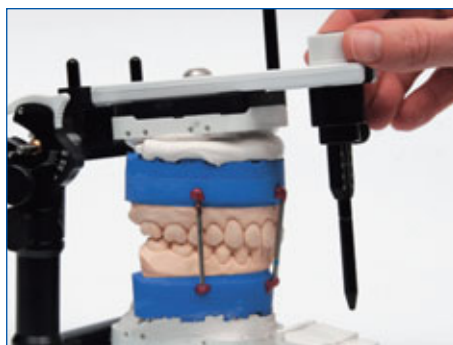
Only Class III and IV plasters are used for fabricating models in dental technology.

**Dental stones** are **Class III** plasters. This is the dental stone used for all standard models, e.g. **anatomical models, opposing dentition and repair models.**



**Base plasters** resp. articulating plasters are special **Class IV** plasters and are used for bases.

**Extra-hard dental stones** are **Class IV** plasters. These dental stones are used for fabricating preparation models and master models.



*Plasters for full denture prosthetics are extra-hard Class V plasters with a higher coefficient of expansion to counteract the contraction of the denture base after polymerisation.*

# The main ... The main ...

## Alginate

are used mainly for impressions of the opposing dentition and for anatomical impressions.



Alginate impressions must be poured within 20 minutes following removal from the mouth. If this is not possible, the impression must be stored in a moist, pressure-free environment.

**Tip:**  
*Place the alginate impression in peracetic acid for 5 minutes to disinfect it.*

## Hydrocolloids

are thermal precision impression materials based on agar-agar (gelling agent of Gelidium seaweed) for crowns and bridges.



Hydrocolloids set below 45°C [113°F]. They cannot be stored and must be poured immediately after removing the impression.

**Tip:**  
*Before pouring, place hydrocolloids in a 2% potassium sulphate solution to neutralise them and then rinse thoroughly with water.*

# impression materials

## impression materials

### Silicones

are suitable for all types of impressions.



There are two types of silicone: condensation-cured (C-silicones) and addition-cured (A-silicones or vinyl polysiloxanes). Both types of silicone should be left for a minimum of 3 hours after removal of the impression before pouring.

**Tip:**

*Spray the impressions with a silicone wetting agent to prevent bubbles during pouring.*

### Polyether (Impregum™ / Permadyne™)

is a universal precision impression material.



After removal from the mouth a minimum of 3 hours should be allowed before fabricating the model!

Rinse the impression with water before pouring and blow off excess water gently with air. Never condition polyether with a wetting agent.

**Tip:**

*Never put polyether impressions in the same bag as alginate impressions.*

# Equipment ... Equipment ...



9

# for model fabrication

## for model fabrication

### **Twister evolution Vacuum mixing unit**

Optimum mixing results at the press of a button. Prevents air bubbles in plaster and investment.

Mixing bowls incl. mixing paddles available in 5 different sizes (tip: use different bowls for plaster and investment).

**Order no. 1822-0000 (230 V)**

**Order no. 1822-1000 (120 V)**

### **MT plus Model trimmer**

For wet and dry trimming, easily modified. Effortless trimming. Power motor with 1,300 watts (230 V) and 2.0 hp (120 V). Trimmer table angle can be accurately adjusted.

**Order no. 1803-0000**

**(230 V, incl. Klettfix trimmer disc)**

**Order no. 1803-4000**

**(120 V, incl. Klettfix trimmer disc)**

### **Silent Extractor**

Powerful yet quiet. Can be used both as a workbench extractor and unit extractor. Continuous operation and automatic switch on. Special, high capacity dust bags easily changed. Cost-effective collector motor.

**Order no. 2921-0000 (230 V)**

**Order no. 2921-1000 (120 V)**

### **Top spin Laser pinhole drilling unit**

Accurate fitting and parallel pinholes. Effortless drilling due to high rpm. Ergonomic technique, drill can be changed without an instrument..

**Order no. 1835-0000**

**(230 V, incl. 1 stepped drill 2.0 / 3.0 mm)**

**Order no. 1835-4000**

**(115 V, incl. 1 stepped drill 2.0 / 3.0 mm)**

### **Mobiloskop ,S' Stereo microscope**

Flexible swivel function for quick control during use. 5 or 10 times magnification (optional: 20 times) ensures efficiency and precision. Also available with optional cold light source for improved three-dimensional vision without shadows.

**Order no. 2200-0802 (with standard swivel arm)**

**Order no. 2200-0602 (with long swivel arm)**

**Order no. 2200-0120 (20x ocular pair)**

**Order no. 2200-3000 (cold light source, 230 V)**

**Order no. 2200-4000 (cold light source, 120 V)**

### **Dustex master (plus) Dust box**

Safe, accurate work due to integrated light and laminated protective glass. Ample freedom of movement, comfortable working.

**Order no. 2626-0000 (Dustex master, 230 V)**

**Order no. 2626-1000 (Dustex master, 120 V)**

**Order no. 2626-0100 (Dustex master plus  
incl. extraction port kit, 230 V)**

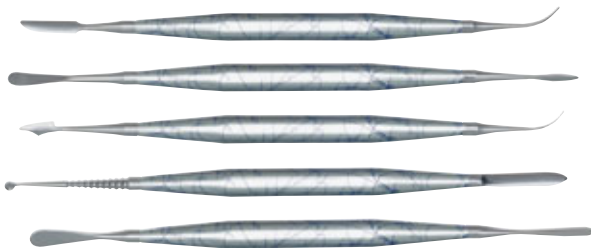
**Order no. 2626-1100 (Dustex master plus  
incl. extraction port kit, 120 V)**

**Order no. 2626-0300 (Quality lens, 2x magnification)**

**Order no. 2626-0400 (Ergonomic armrests)**

# Instruments and brushes ...

## Instruments and brushes ...



9

# for model fabrication for model fabrication

## **Mixing spatula**

Optimally designed for the shape of the *Twister* mixing bowl.

**Order no. 1821-0200**

## **Combi wax brush**

Large brush for smoothing and cleaning wax patterns. Small brush for applying separating agent to dies or plaster models. Dual-purpose brushes for all standard procedures in crown and bridge work and partial denture work.

**Order no. 1705-0000**

## **Pin holder**

Ergonomic positioning aid for gluing pins in position. Easy to use with reliable retention. Facilitates pin positioning.

**Order no. 1149-0000**

## **Universal instrument**

High-quality instrument with a holder for 5 different tips. For use in different dental laboratory procedures.

**Order no. 1030-1000**  
**(1 holder with 3 blades)**

## **ERGO wax instruments**

Latest design with an optimised combination of sculpting tips. Suitable for all possible areas in dental technology.

**Order no. 1034-2000**  
**(Set of 5 instruments)**

## **Model saw**

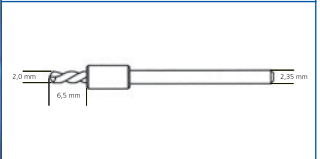
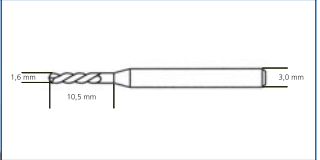
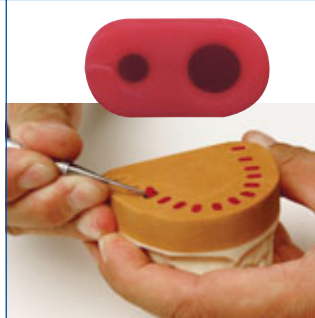
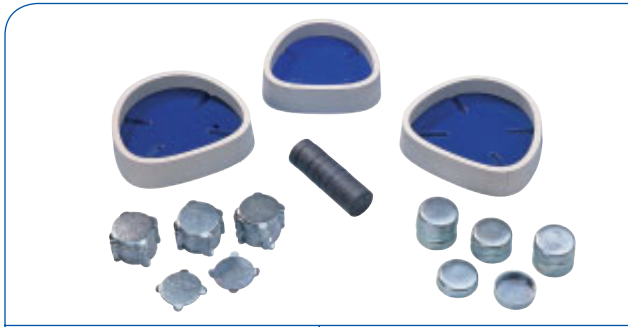
Angled to ensure a clear view of the cutting path.

**Order no. 1084-0000**  
**(incl. saw blade 1072)**

# Materials ...

## Materials ...

9





# for model fabrication for model fabrication

<p><b>Pin-Cast model base former</b></p> <p>Proven for efficient fabrication of accurate dental arches.</p> <p><i>Order no. 410-0326</i>  <i>(Set for short Bi-Pin with sleeve no. 326, base height: 13.5 mm)</i>  <i>Order no. 410-0346</i>  <i>(Set for long Bi-Pin with sleeve no. 346, base height: 17.5 mm)</i>  <i>Order no. 410-0366</i>  <i>(Set for Smart-Pin no. 366 and Bi-V-Pin no. 328, base height: 12.5 mm)</i></p>		<p><b>Bi-V-Pin</b></p> <p>Slimline, tapered model pin. Optimum retention provided by two guide pins.</p> <p><i>Order no. 328-1000 (100 pcs)</i>  <i>Order no. 328-2000 (1.000 pcs)</i></p>
<p><b>Smart-Pin</b></p> <p>Ideal for thin dies. Precise metal sleeve guide.</p> <p><i>Order no. 366-2000</i>  <i>(Smart-Pin, 1.000 pcs)</i>  <i>Order no. 366-2100</i>  <i>(Sleeves for Smart-Pins, 1.000 pcs)</i></p>	<p><b>Rubber caps</b></p> <p>Save time, increase accuracy and protect the pins when trimming the base. Provide orientation when determining pin position. No correction work needed!</p> <p><i>Order no. 322-0000 (500 pcs)</i></p>	<p><b>Smart-Pin drill</b></p> <p>Drills designed for use with the <i>Top spin</i>.</p> <p><i>Order no. 367-0000 (3 pcs)</i></p>
<p><b>Instant glue</b></p> <p>The original instant glue. Universal use with plaster, metal, acrylic and porcelain. For gluing and sealing, ideal flow properties, short setting time.</p> <p><i>Order no. 1733-0100 (6 x 10 g)</i>  <i>Order no. 1733-0350 (6 x 3.5 g)</i></p>		<p><b>Bi-Pin drill</b></p> <p>Drills designed for use with the <i>Top spin</i>.</p> <p><i>Order no. 347-0000 (3 pcs)</i></p>
<p><b>Concret</b></p> <p>High viscosity special glue for filling large glue joints in plaster, metal, acrylic and porcelain.</p> <p><i>Order no. 1722-0020 (2 x 10 g)</i></p>		<p><b>Plastercut</b></p> <p>Diamond-coated separating disc for accurate, quiet-running separation of dies.</p> <p><i>Order no. 33-0260 (Ø 26 mm)</i>  <i>Order no. 33-1300 (Ø 30 mm)</i>  <i>Order no. 33-1450 (Ø 45 mm)</i></p>
<p><b>Isifix 2000</b></p> <p>Separating agent in a practical spray bottle for plaster to plaster. Does not form a film. Ideal for model fabrication.</p> <p><i>Order no. 1720-0000</i>  <i>(1 l Isifix plus 500 ml spray bottle)</i>  <i>Order no. 1720-2000</i>  <i>(2 x 1 l Isifix refill)</i></p>		

Efficient waxing up explained step by step. Order this popular brochure now free of charge.



[www.renfert.com](http://www.renfert.com)

Sender (only complete if different from information on reverse)

Firm \_\_\_\_\_

Name/Contact person \_\_\_\_\_

Street \_\_\_\_\_

Town/Postcode \_\_\_\_\_

Please  
Affix  
Stamp



Reply

**Renfert GmbH**  
Customer Service  
Postfach 1109  
78245 HILZINGEN  
DEUTSCHLAND

# Customer service Customer service

## Please send a free copy of:

Waxing-up manual       Renfert-Report       Catalogue

## Direct to\*:

Surname: \_\_\_\_\_ Forename: \_\_\_\_\_

Firm (if applicable): \_\_\_\_\_

Street / no.: \_\_\_\_\_

Postcode: \_\_\_\_\_ Town: \_\_\_\_\_

Country: \_\_\_\_\_

Phone: \_\_\_\_\_ Fax: \_\_\_\_\_

E-Mail: \_\_\_\_\_

## Business / Occupation\*:

<input type="checkbox"/> Dental laboratory	}	Number of lab. employees: _____
<input type="checkbox"/> In-house laboratory		Depot / Supplier: _____
<input type="checkbox"/> Laboratory owner / manager		
<input type="checkbox"/> Dental technician		
<input type="checkbox"/> Dentist		

Complete this form online at

<http://www.renfert.com/info>

or send this page per fax to:

**+49 7731 8208-70**

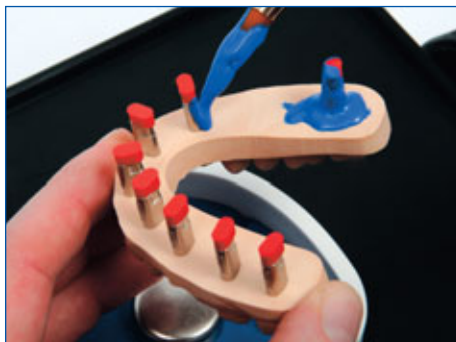
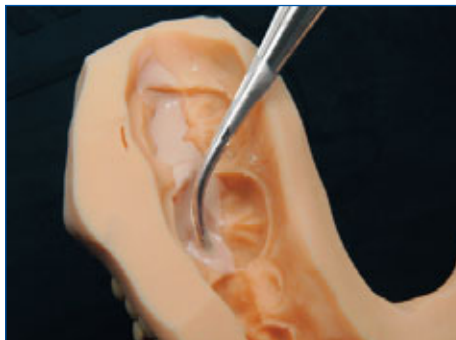
or tear this page out and send it to us as a reply postcard with a stamp.



Ideas for dental technology

# Step by step to success

## Step by step to success



Your dental dealer:

As our products are subject to continuous development, product illustrations are intended only as examples.

Renfert offers a **3-year guarantee** on all equipment provided it is used according to instructions. The original sales invoice of the dental supplier is required for a claim under guarantee. The guarantee excludes parts that are subject to normal wear and tear. Incorrect use, disregard of the operating, cleaning, maintenance and installation instructions, in-house repairs or repairs by unauthorised personnel, use of replacement parts from another manufacturer and exceptional factors not covered by the instructions for use render the guarantee invalid. A successful claim under the guarantee does not extend the guarantee period.



+J00922006801

Renfert GmbH / Industriegebiet / 78247 Hilzingen / Germany  
or: Postfach 1109 / 78245 Hilzingen / Germany  
Tel.: +49 (0)7731 8208-0 / Fax: 8208-70 / [www.renfert.com](http://www.renfert.com) / [info@renfert.com](mailto:info@renfert.com)

USA/Canada/Mexico:  
Renfert USA / 3718 Illinois Avenue / St. Charles IL 60174 / USA  
Tel.: 630 762 1803 / Fax: 630 762 9787 / [www.renfertusa.com](http://www.renfertusa.com) /  
[richardj@renfertusa.com](mailto:richardj@renfertusa.com) / **Free call 800 336 7422**

**Renfert**  
Ideas for dental technology