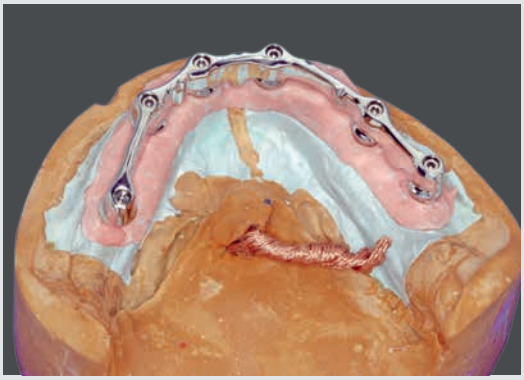
SAE Epoxy Resin and Special Die Stone – Precision fit with dimensionally stable master models



:: Step by Step for the dimensionally stable master model for combined dental prostheses

:: Step by Step for the dimensionally stable SAE spark erosion model

Master models for combined prostheses – dime

Do you want a perfect result?

Precision fitting is now in your hands. With SAE spark erosion, we have developed a system which enables you to achieve the µm-precise production of dental prostheses with passive fit.

Even if your work is very exact, the results will never be perfect if the shape and form of your models change as a result of being subjected to varying conditions such as humidity and temperature fluctuations. This results in misfits, complaints and loss of time and money.

Therefore, we recommend that you use the durable SAE materials - SAE special die stone and SAE epoxy resin. They retain their form even if there is a change in environmental conditions.

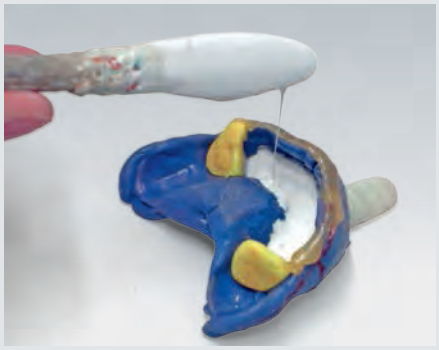
As such, they enable you to constantly produce dental prostheses with an exact fit under conditions that always remain the same.

These instructions of use show you step by step how, by using the SAE materials, you can achieve results of great precision which will enthral not only you but each one of your customers.

1] Preparation of impression: Template mould for epoxy resin.

2] Dosage:
Epoxy resin: 6 parts (ml)
Epoxy hardener: 1 part (ml) ...

3] ... add and mix ...



4] ... pour in thinly.

5] Position impression in the horizontal centrifuge with counterbalance.
Spinning process: 1 minute

6] Place the retention pins firmly in the epoxy material.

SAE Epoxy Resin + Hardener

Order No: 40-1060 – Resin – 6 parts
Order No: 40-1061 – Hardener – 1 part

Instructions of use:

Pre-heat the epoxy resin in water bath (baby bottle warmer) to a working temperature of 35°C - 38°C.

- :: **Use at room temperature 20°C – 22°C**
- :: **Setting time 6 hours = best results**
- :: **Normal contraction 0.01 – 0.03 mm**
- :: **Setting time up to 6 hours – do not expedite, otherwise increased contraction**

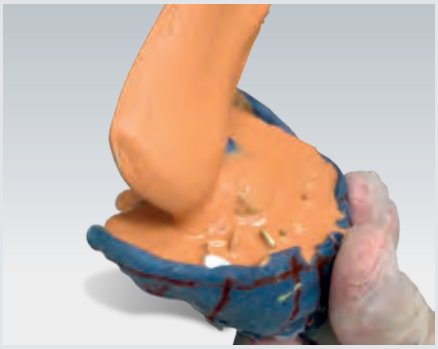
So that the epoxy resin can flow bubble-free into the impression, we recommend the spinning process. For this, both hand or Sirius centrifuges or similar appliances are ideal.

nsionally stable and durable thanks to SAE epoxy

7] Remaining effusion with SAE special die stone after removing template mould.

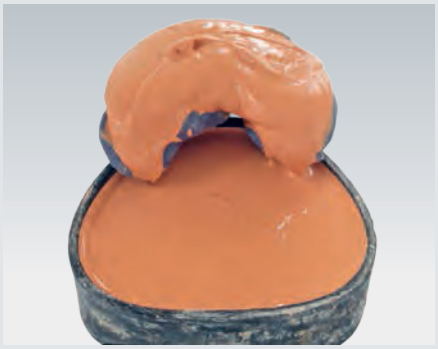
8] Prefabricated model base with magnet.

9] SAE special die stone mixed in the vacuum mixer – 1 minute at 15-20 millibar.

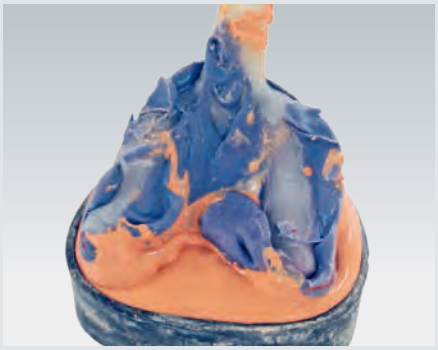


10] Effusion with SAE special die stone.

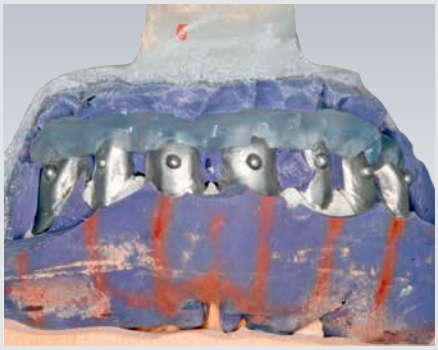
11] Effusion is completed.



12] Effusion is completed.



13] Final phase:
Setting time = 60 minutes.



14] A control window of the impression is made after the die stone has set: Are the crowns correctly positioned in the impression?

15] The dimensionally stable and durable master model.

SAE

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SAE Special Die Stone light brown Grade IV

SAE Special Die Stone light brown is an acrylic-enhanced die stone with low expansion. It is ideal for all sorts of impression materials and is characterized by the enhanced stability of its edges.
Despite its high compressive resistance, it does not splinter when trimmed and processed further.
It is ideal for sawn models and for inlays, crowns, bridges and combined models.

20 ml / 100 g SAE die stone mixing ratio
Order No. 70-1121 light brown
Order No. 70-1117 ivory

Isolation:

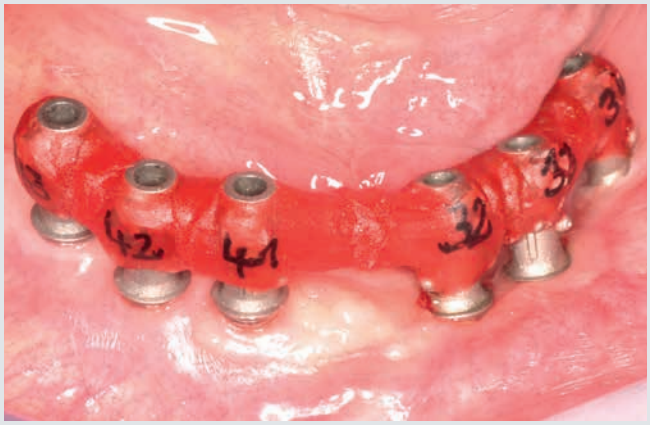
Impression material for epoxy model material:

Isolation is not necessary! Should you experience problems, we recommend silver powder used in the galvano technique. Apply a thin layer with the brush and then blow off lightly with the air jet.

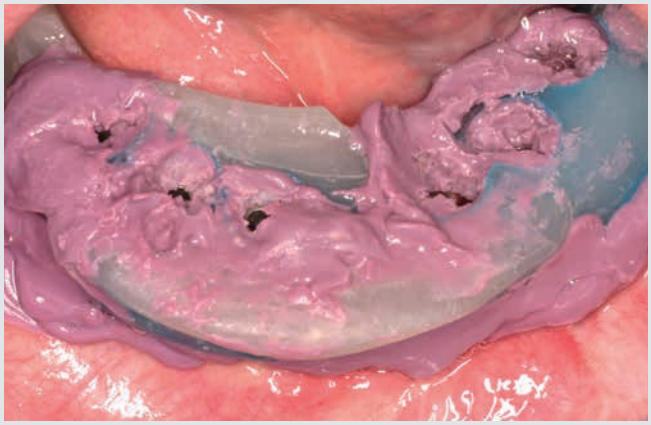
Epoxy model for autopolymerizing material:

Apply thin layer of Ivocron separator (from the company Ivoclar) or Vaseline to the epoxy model area.

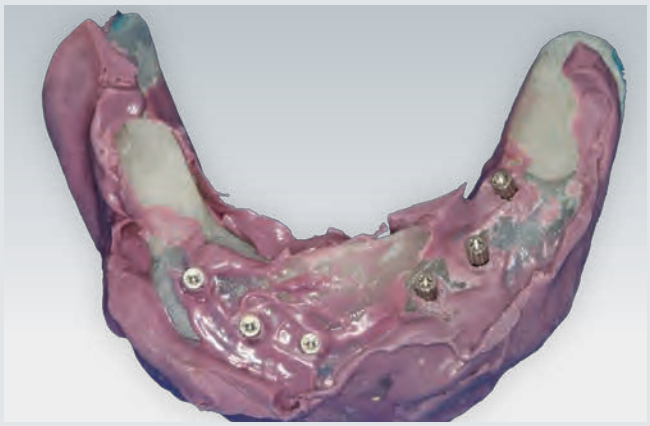
How to make dimensionally stable spark erosi



1] The abutment control check with the impression posts. Control block made of Pattern Resin fitted tension-free in the mouth.

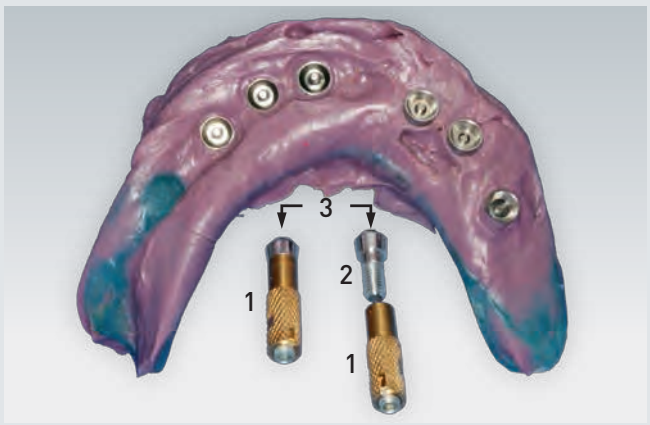


2] An impression is made over the abutment control check with a customized impression tray and Impregum

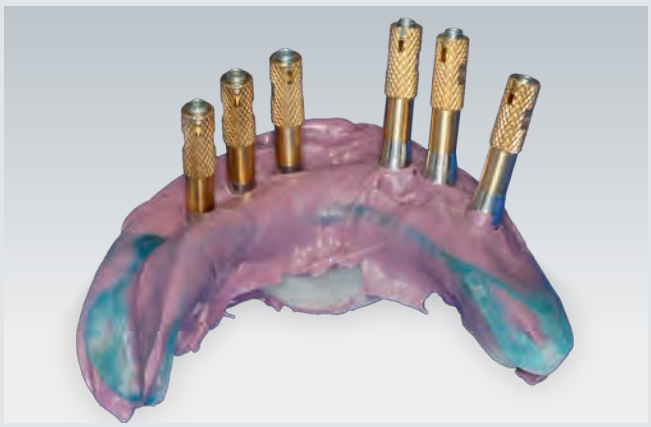


3] The impression with the customized impression tray and Impregum with the impression posts.

4] System Straumann Bone Level –
RC impression posts for Multi-Base abutment.



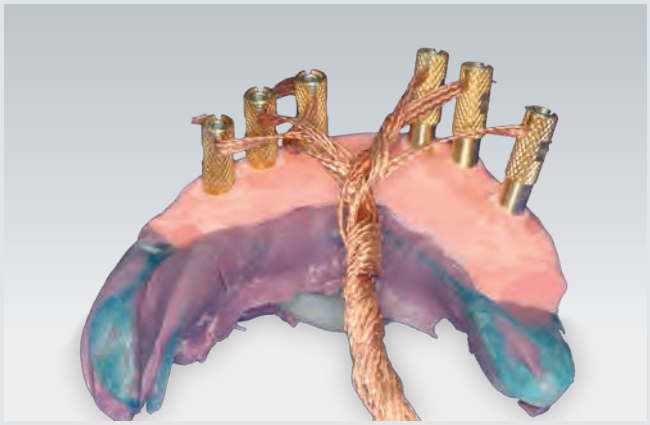
5] Impression at abutment level and the model parts, system Straumann Bone Level from SAE:
1. SAE model shell (Order No. SAE 82-0081)
2. SAE implant replica (Order No. SAE 82-0178)
3. SAE screw (Order No. SAE 82-0079)



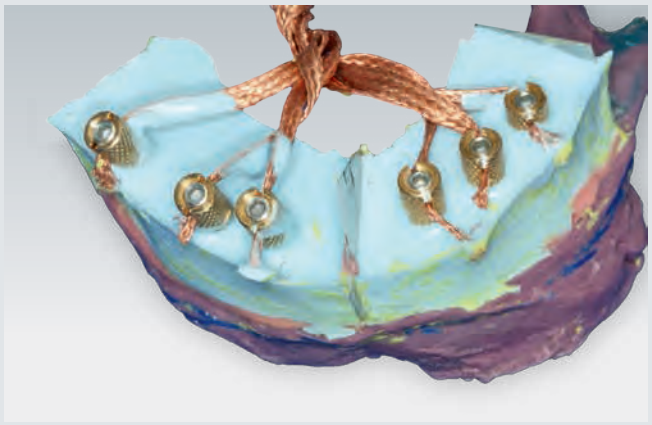
6] The system-linked implant replicas are screwed into the Secotec model shells which are in turn screwed into the impression posts situated in the impression. The screws are screwed in using the torque wrench (1) and the counter wrench (2) taking into account the given torque tightening values – 20 Ncm.
1 (Order No. SAE 82-0521 and 82-0519)
2 (Order No. SAE 82-0531)

on models for implants with passive fit.

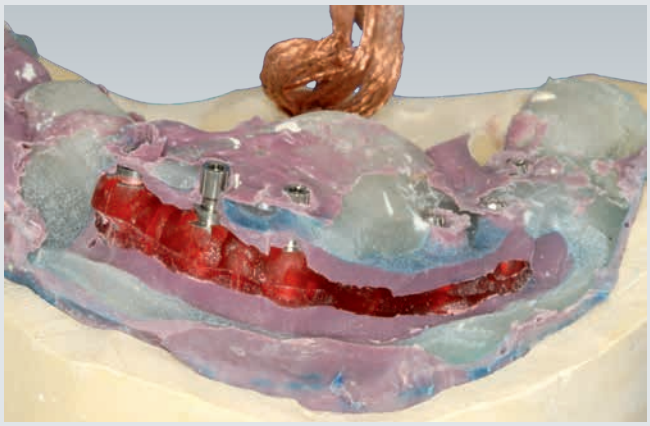
7] Each model shell is connected to the copper wire (Order No. SAE 82-0500) so that all model shells are linked to the electric circuit. The free ends of the wires should be linked together and directed away from the model.



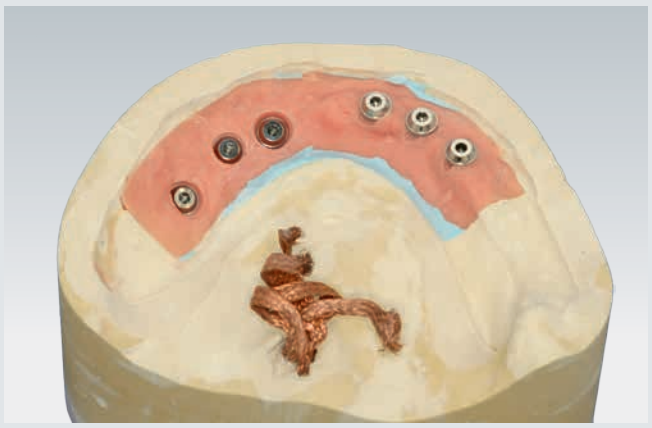
8] An effusion of permanently elastic silicone gingival mask follows so that the implant replicas are completely covered with silicone and only the model shells remain completely visible.



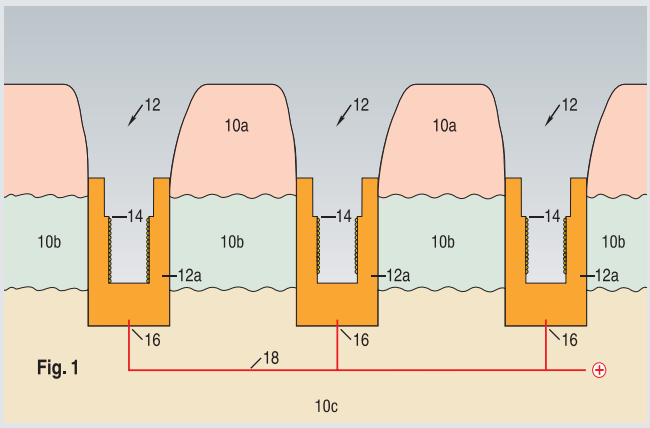
9] A sealing sleeve of wax is applied, followed by a partial effusion of SAE epoxy resin that is not prone to contract – shrinkage 0.003 mm (Order No. SAE 40-1060 and 40-1061). Remaining effusion follows using SAE implant model die stone (Order No. SAE 70-1121).



10] This milled-in control window confirms to the dental technician that the Pattern Resin block has been correctly inserted by the dentist.



11] The dimensionally stable master model with the removable SAE implant replicas; these are replaced by copper electrodes that can be eroded for the spark erosion process.

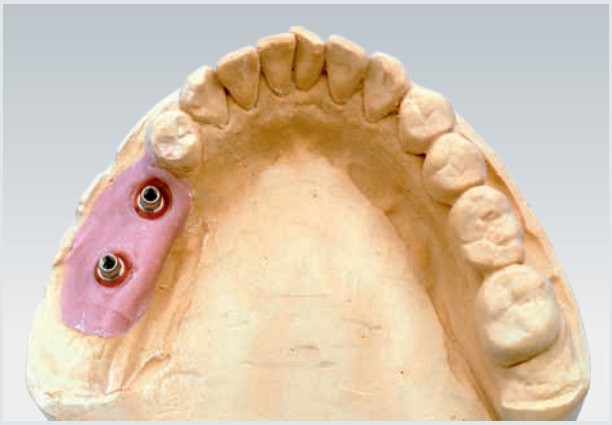


12] **Diagram of the Secotec model structure:**

10a Part of model (elastic and removable)
10b Part of model – SAE epoxy resin
10c Part of model made of SAE special die stone
12 Area to receive implant replica and implant electrode
12a SAE model shell
14 Thread for SAE model shell
16 Contact area for electric wire
18 Copper wire for electric current (anode)

Scientifically proven stability

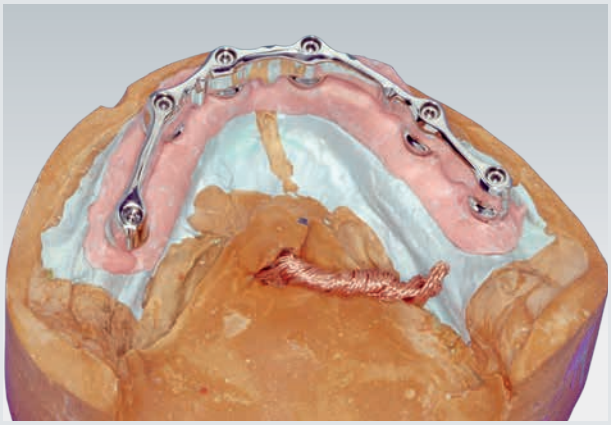
The comparative study in **Quintessenz Zahntechnik 3/2004** illustrated this. Our SAE epoxy resin and the SAE special die stone are much more precise and durable than many other model materials. Thus, you can achieve results of greater precision. Both materials have been used successfully in the Rübeling group dental laboratories for years.



SAE Special Die Stone
Natural die stone, strengthened with resin Grade IV

Top marks

Model Test 1		Data in mm	Difference to steel test model 0
28 DAYS (END OF TEST)	Distance A	34.63	+-.00
	Distance B	11.34	+-.00
	Distance C	34.20	-0.01
	Distance D	31.78	-0.01



SAE Epoxy Resin with sectional division and SAE Special Die Stone

Top marks

Model Test 10		Data in mm	Difference to steel test model 0
28 DAYS (END OF TEST)	Distance A	34.62	-0.01
	Distance B	11.34	+-.00
	Distance C	34.20	-0.01
	Distance D	31.79	+-.00

The SAE product catalogues can be downloaded at:
www.sae-dental.de

Do you still have questions regarding working with SAE epoxy resin? Can we help in any other way? If so, we look forward to hearing from you.

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