

SHERAFINA 2000

INSTRUCTIONS FOR USE

Please read the entire instructions for use before processing the investment material.

1. Indication

Phosphate-bonded investment material for the fabrication of casting rings using the conventional or speed casting method. Suitable for all dental alloys. For the fabrication of post and core abutments, inlays, onlays, crowns, telescopes, bridges and implant work. The sculpturing can be made of wax or suitable resins. Suitable for pressable ceramics for wax objects.

2. Contraindication

Not suitable for titanium or titanium alloys

Even tiny residues on the tools, including plaster or cleaning agents, can have a negative effect on the casting result.

Please use the respective spatula and mixing cup exclusively for processing phosphate-bonded investment material and always leave the mixing cup filled with water after use and cleaning.

3. Safety instructions

Attention! Investment materials contain quartz! Do not inhale dust. Risk of lung diseases (silicosis or cancer). Wear a fine dust mask!

Please use a fine dust mask when weighing and mixing the powder and devesting the mould.

4. Preparatory & general recommendations

4.1. Storage & processing temperature

- Store powder and liquid in a dry place
- The processing temperature is between 20 – 23°C (ideally 21°C in the temperature cabinet)

SHERALIQUID is sensitive to cold. If stored or transported below +5°C, the liquid will be damaged and should no longer be used. It is therefore often not possible to ship the liquid during the winter months. Please make a winter stock in good time.

4.2. Vacuum stirrer (parameters)

Program a programme with the following parameters:

- Stirring time 60 seconds,
- 80% vacuum,
- 350 revolutions/minute

How to check the vacuum of your mixer:

- Evacuate 60 seconds
- 100% vacuum
- Fill the beaker half full of cold water.
- Maximum vacuum (100%) without stirring, after 30 seconds at the latest you should recognise small bubbles in the beaker and on the stirrer, which will roll off over time and form/reappear.

- If this is not the case, the filter may be clogged and the appliance/filter should be cleaned. The sealing ring on the cup should also be checked.

Under the following link you will find a [SHERA TECH HACK](#) for the vacuum.

4.3. Modelling resin

- Post-polish the modelling resin for 10 minutes at 45 – 55°C in the pressure pot.
- After 20 minutes, place the casting ring in a furnace preheated to 360°C to burn out the resin. Holding time of 30 minutes. Continue heating to the desired final temperature (according to the alloy) without holding stages (see point 6.3).

4.4. SHERAMUFFELFORMER

We recommend the use of [SHERAMUFFELFORMERS](#) to ensure that the investment material is open-pored.

SHERAMUFFELFORMERS are made of a thermoelastic and heat-insulating material. This supports the chemical reaction of the investment, as the "thermos flask effect" results in a better temperature curve with uniform and undisturbed expansion.

4.5. SHERARELAXA

We recommend [SHERARELAXA](#) as a surface relaxant, e.g. for waxes, resins and to improve the flow properties of investment materials.

Mist the modelling very thinly with SHERARELAXA and fill in the investment directly without allowing the film to dry.

4.6. Notes on the expansion liquids

[SHERALIQUID](#) is an expansion liquid for all SHERA investment materials.

The SHERALIQUID is mixed with distilled water according to the following mixing ratios.

For alloys with very high metal shrinkage values or for indications where increased expansion is required, [SHERALIQUID-EXTRA](#) can be used as an admixture to SHERALIQUID (max. 30% admixture).

Mixing tables are available at www.shera.de under each product



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4.7. Recommendations and tips for expansion

- 160 g powder: 38 ml total liquid
- We recommend using at least 160g to achieve consistent results.

The expansion can be changed by adjusting the ratio / proportion of liquids:

- more SHERALIQUID = more expansion
- less SHERALIQUID = less expansion.

Within small limits, the expansion can be minimised by changing the total amount of liquid (up to 4 ml) can be influenced:

- reduced total liquid – more expansion (wide pours)
- increased total liquid – less expansion (narrow pours).
- SHERALIQUID-EXTRA may only be used as an admixture to SHERALIQUID e.g. for alloys with very high metal shrinkage values (max. 30% admixture).

Our recommendations are based on test results from our laboratory and are approximate values. Various factors on site, such as room temperature, humidity or the settings of the mixer, can influence the results.

4.8. Telescope and implant work

- In the case of delicate dies or thin-walled implant abutments, for example, we recommend working with a slightly thicker investment material and thus a reduced total amount of liquid in order to further increase the stability of the investment material.
- Since, as stated above, a reduced total liquid results in more expansion, the SHERALIQUID must be reduced to maintain the fit, the amount of distilled water remains the same.
- Example:
Graceful telescopes made of high-gold alloy.

Specified mixing ratio:

38 ml total liquid: 160g powder

23 ml SHERALIQUID: 15 ml dist. water

Reduced total liquid:

34 ml total liquid: 160g powder

19 ml SHERALIQUID: 15 ml dist. water

4.9. Pressable ceramics:

Mixing ratio 200g powder: 44 ml liquid

Pressable ceramics	Inlays:		Crowns, onlays, veneers:	
	24 ml SHERALIQUID	55%	26 ml SHERALIQUID	60%
	20 ml dist. water	45%	18 ml dist. water	40%

- We recommend the special investment material **SHERAUNDER PRESSURE**
- To increase the open porosity of the mould surface and to prevent cracks, use a fleece insert for mould production.
- Reduce the total liquid, mix thicker (see table for pressable ceramics).
- Preheat the press oven very well with an appropriate preheating programme.
- Alternatively, the pressing programme can be used for preheating before pressing without the investment ring.

5. Production

5.1. Alloy mixing table

Mixing ratio 160g powder: 38 ml liquid

Alloy	Post and core abutments Inlays		Wax crowns Onlays	
High gold content alloy 70% - 80% Au	16 ml SHERALIQUID	42%	18 ml SHERALIQUID	47%
	22 ml dist. water	58%	20 ml dist. water	53%
Gold-reduced alloy 55% - 65% Au	17 ml SHERALIQUID	44%	19 ml SHERALIQUID	50%
	21 ml dist. water	56%	19 ml dist. water	50%
Palladium-based alloy	25 ml SHERALIQUID	65%	26 ml SHERALIQUID	68%
	13 ml dist. water	35%	12 ml dist. water	32%
Non-precious metal - Alloy	30 ml SHERALIQUID	80%	34 ml SHERALIQUID	90%
	8 ml dist. water	20%	4 ml dist. water	10%

Alloy	Telescopes Modelled in plastic: (See point 4.3)		Cone crowns Modelled in plastic: (See point 4.3)	
High gold content alloy 70% - 80% Au	23 ml SHERALIQUID	60%	22 ml SHERALIQUID	58%
	15 ml dist. water	40%	16 ml dist. water	42%
Gold-reduced alloy 55% - 65% Au	26 ml SHERALIQUID	68%	25 ml SHERALIQUID	65%
	12 ml dist. water	32%	13 ml dist. water	35%
Palladium-based alloy	32 ml SHERALIQUID	84%	30 ml SHERALIQUID	79%
	6 ml dist. water	16%	8 ml dist. water	21%
Non-precious metal - Alloy	Total liquid	100%	38 ml SHERALIQUID	100%
	reduced to 34 ml or			
	34 ml SHERALIQUID 4 ml SHERALIQUID EXTRA	90% 10%		

5.2. Processing time

- Processing time: 6 - 7 minutes (160g : 38 ml)
- The processing time is shortened if the total liquid is reduced and/or the temperature is warmer.

5.3. Mix vacuum

- Pour the powder into a dry vacuum mixing bowl and weigh the components.
- Add the mixed liquid. (time measurement, 20 minutes, start!)
- By hand, mix powder with liquid homogeneously for approx. 15 seconds.
- Start stirring programme (see point 4.2)
- After 20 minutes (for speed casting), the casting ring must be put into the furnace.
- Only pour in the investment at the lowest vibration level.
- Do not shake the muffle after filling.



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6. Heating up / preheating

6.1. General information

- Break the edges of the investment ring with a clean knife before placing it, making sure that nothing falls into the casting cone. The mould should not be trimmed (plaster residue / water absorption of the mould)
- Place the muffle in the furnace on a perforated or ribbed base plate with the casting cone facing downwards (to the side in the case of resins).

6.2. Speed casting

- After 20 minutes from the start of the mixing process, place the moulds in a furnace heated to a maximum of 850°C.
- Hold the final temperature for 60 minutes.
- If necessary, depending on the alloy requirements, heating can be continued after 20 minutes, up to a maximum preheating temperature of 980°C

6.3. Conventional heating

- After at least 20 minutes from the start of the mixing process, place the moulds in the furnace when they have cooled to room temperature.
- Heating rate: up to 20°C/min. without holding levels
- For resins, possibly a holding stage at approx. 360°C
- We recommend a preheating/casting temperature of the casting ring of 850°C
- If necessary, depending on the alloy requirements, heating can be continued after 20 minutes up to a maximum preheating temperature of 980°C.

7. Metal casting

- If several muffles are preheated in the furnace, the holding time per muffle must be extended by 10 minutes.
- Hold the final temperature for at least 60 minutes.
- We recommend a final temperature of 850°C for the muffle.
- Melt the alloy according to the manufacturer's instructions.

8. Cooling down

Cool the muffle to room temperature. Do not quench with water.

9. Divestment

Remove the investment as usual. Vacuum off dust and do not hit the object or casting taper. Carefully sandblast the inner surfaces of the crowns during subsequent sandblasting. The fit can also be made larger by blasting.

10. Information / feedback:

Further information, mixing tables and safety data sheets are available at www.shera.de under each product.

If you have any questions, please contact our service team on +49 (0) 5443 9933 0.

When giving feedback on the product, please always state the batch number.

11. Waste disposal

Dispose of residues in accordance with local regulations.

12. Guarantee

SHERA Werkstoff-Technologie GmbH is certified in accordance with EN ISO 13485 and guarantees flawless quality for its products thanks to an elaborate quality assurance system. Our user recommendations are based on so-called guide values determined in our test laboratory. These values can only be guaranteed if the specified process steps are adhered to. The user is responsible for the processing of the products. SHERA is not liable for faulty results, as SHERA has no influence on further processing. Any claims for damages that may nevertheless arise relate exclusively to the value of our products

