GB

INSTRUCTIONS FOR USE

SHERA*TITAN-EASY*

Investment material for model casting, crowns or bridges as well as implants made of titanium for conventional heating or speed casting method

Dear customers!

You have selected a high-quality product from SHERA Werkstoff-Technologie. We would like to thank you for placing your trust in us. We, as manufacturers, have harmonised our products with each other. It is strongly advisable not to use products from other manufacturers with our products as this could possibly have a detrimental effect on the result of the cast.

Throughout the whole development stage right up to the completion of this product we gained a great deal of experience from which you can benefit. For this reason, we kindly ask you to carefully read the following instructions for use and to observe them. Modern high-tech materials require optimal handling. In this way full efficiency can be obtained and excellent results can be achieved. Any variation in use is extremely likely to result in an impairment of quality. Please set aside the time to work carefully and exactly according to the instructions. We can assure you ... it will be worth it!

Should you have any questions concerning the handling and treatment of our products, we will do our utmost to support you.

Your
SHERA
Werkstoff-Technologie
GmbH & Co. KG

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Storage

Store the investment powder and the necessary expansion liquid at a constant temperature of 20-23°C. A temperature-regulated cupboard is ideally suited for this purpose. Please remember that the expansion liquid is very frost sensitive. Always use the older batches from your stock first. Best results are achieved by shaking the tin with the investment material powder before each use.

Technical data

Working temperature:	20-23°C (for powder and liquid)
Working time:	6-7 minutes
Mixing ratio:	100 g powder : 15 ml liquid
	300 g powder : 45 ml liquid
	600 g powder : 90 ml liquid

Required materials

Investment material SHERA*TITAN-EASY*
SHERA*LIQUID*
SHERA*LIQUID EXTRA*
SHERA*MUFFELFORMER TG* (slit, for crowns and bridges) or
SHERA*MUFFELFORMER MG* (not slit, for model casting)

Controlling the expansion

Simply control the setting expansion of SHERA*TITAN-EASY* investment material by the concentration of the expansion liquids. As a rule of thumb: the higher the concentration, the greater the expansion and the wider the casts. The lower the concentration, the lower the expansion and the narrower the casts.

Preparation

In case of dust formation, wear a fine dust mask and switch on the extraction system. Please also pay attention to the safety data sheet of this product.

Only use a mixing beaker and spatula that are completely clean. It is highly recommended to keep one beaker and spatula exclusively for mixing the investment material.

Clean the mixing beaker and spatula each time after using it with clear water only (by no means should cleaning agents be used as they affect the chemical processes of the investment material). When not in use, leave the beaker standing filled with clear water. Never bring the investment materials into contact with equipment, containers or materials containing gypsum.

It is essential that the investment process is carried out using the design patented, slit SHERA*MUFFELFORMER TG* (or SHERA*MUFFELFORMER MG* in case of model casting) made of cellular rubber. Metal rings or other muffles are not suitable for SHERA*TITAN-EASY* and result in faulty casts. Therefore, please only use the 3-part SHERA*MUFFELFORMER TG*. Place the muffle ring with the open slits downwards into the lid and check the stability. Afterwards please apply casting ring liner at the inside of the mould former. Then place both onto the casting gate former. For even better gas extraction, we recommend roughening the surface opposite the casting git. (For the centrifugal casting we alternatively offer a smaller casting gate former (item no. 60013)).

Exact results can be achieved with the following concentrations:

In the crown, bridge or implant technique

Muffle size	**Powder quantity :**		**SHERA*LIQUID***	**+**	**SHERA*LIQUID EXTRA***
3-part muffle	300 g	:	9 ml	+	36 ml
6-part muffle	600 g	:	18 ml	+	72 ml

Please remember: This information refers to a temperature of 20-23°C. Deviating the temperatures of the powder and/or the liquid will have an adversely affect on the results. Before starting work, it is imperative to check the temperature of your materials (if necessary, reduce the temperature of the liquid by putting it into the refrigerator or warm the liquid and powder slightly on a radiator, shaking the tin now and again.

Treatment

1. Sprinkle the investment powder that has been exactly weighed out into the clean mixing beaker.
2. Measure out the exact amount of liquid in the measuring beaker in the concentration indicated and add the liquid to the powder in the mixing beaker.
3. Using the spatula, immediately mix the paste, stirring vigorously for 15 seconds.
4. Then stir the mixture in a vacuum for 45 seconds at 250 rpm. Other revolutions per minute or times impair the setting expansion.
5. Place the mould on a vibrator at the lowest level and carefully fill the mould with the investment paste working from the outer edge. When the casting mould is full, do not shake again.
6. After 20 minutes the upper lid of the mould former has to be removed to enable the investment material to expand freely.
7. The hardening time is 60 minutes calculated from the beginning of the mixing process.

Model casting

SHERA*TITAN-EASY* is only suitable for silicone duplication!

Processing

1. pour the already mixed liquid into the mixing beaker
2. add the powder
3. mix vigorously for 15 sec. by hand
4. mix under vacuum for 45 sec., speed approx. 250 rev./min. (higher revs. reduce the expansion)

Use mixing beaker and spatula for investments only. Never use them for stones/plasters as well. Mixing beakers must be absolutely clean and free of investment residues. Smooth scratched mixing beakers with fine sandpaper.

Neither use surface tension release agent when working with silicone forms and wax-ups nor handle the casting mould with vaseline by no means.

Expansion control: (SHERA*LIQUID EXTRA* : SHERA*LIQUID*)

For the model:

Model: 200 g powder : 30 ml liquid

(approx. 80% SHERA*LIQUID EXTRA* : 20% SHERA*LIQUID*)

After 30 minutes the silicone form (which is filled with investment) has to be placed into a furnace at a temperature of 80 °C thus it is not a problem to place it into a furnace.

You shall then remove the model from the form and dry it in a furnace at 140°C for 20 minutes. Afterwards you can start the wax-up.

For the mould:

Mould: 800 g powder : 120 ml liquid

(50% SHERA*LIQUID EXTRA* : 50% SHERA*LIQUID*)

The mould can be removed after approx. 60 minutes from the form made of cellular rubber and can be placed into the furnace.

Vibrating

Only fill mould under the lowest vibration possible. Stop the vibration immediately once the mould is filled. Roughen the surface opposite the sprue in order to enable the mould to degas.

Initial heating and casting

Please ensure that the mould is placed on a perforated or corrugated ceramic base plate with the casting git always facing downwards.

It is also important not to open the oven door after filling as this could otherwise result in undesirable effects on the chemical process in the mould.

... using the conventional heating method

1. After hardening, place the mould in the cold oven
2. Heat the oven with a heating-up speed of max. 20°C/min to 850°C (heating-up rate). If the oven is full, increase the reaction time by 15 minutes.
3. When a temperature of 850 °C is reached, maintain this temperature for 60 minutes (hold time).
4. Then allow the oven to cool down to 600 °C or take the mould out of the oven and allow to cool down at room temperature to 600 °C.
   As a reference value: the 3-part mould requires approx. 5 minutes at room temperature for this, the 6-part mould approx. 6 minutes and the MG mould needs approx. 10 minutes at room temperature
5. At a temperature of approx. 600 °C you can fill the mould with titanium (casting temperature).

... using speed casting

Several moulds can be placed in the pre-heated oven simultaneously. In this case, maintain the final temperature for at least 10 minutes for each additional mould.

1. Heat the oven to a temperature of 850 °C.
2. After hardening, place the mould in the hot oven heated up to 850°C.
3. Then take the mould out of the oven and allow to cool down to 600°C at room temperature.
   As a reference value: the 3-part mould requires approx. 5 mintues at room temperature for this, the 6-part mould approx. 6 minutes and the MG mould needs approx. 10 minutes at room temperature.
4. At a temperature of approx. 600 °C you can fill the mould with titanium (casting temperature).

Devesting

The mould can be carefully cooled down under a water jet 30 mintues after casting. Then the investment material can easily be separated from the casting object.

Warranty

SHERA Werkstoff-Technologie GmbH & Co. KG, Lemförde is certified in accordance with ISO 9001 and guarantees the flawless quality of its products. All recommendations in these instructions for use are based on the findings from experiments conducted in the SHERA laboratory. Since SHERA has no influence on the subsequent treatment of its products, the company cannot assume any liability for faulty results. The user is personally responsible for the treatment of the products. Any claims for damages that may arise nevertheless refer exclusively to the commodity value of our products.