

Verarbeitungsanleitung für / Instructions of use / Istruzioni per l'uso  
Mode d'emploi / Instrucciones de uso

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für / for / per / pour

**DUOVEST®**

**Kronen und Brückeneinbettmasse  
Crown and Bridge Investment Material  
Rivestimento ai Fosfati per Ponti e Corone  
Revêtement pour Bridges et Couronnes  
Revestimiento para coronas y puentes**



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# Operating Instructions

## DUOVEST®

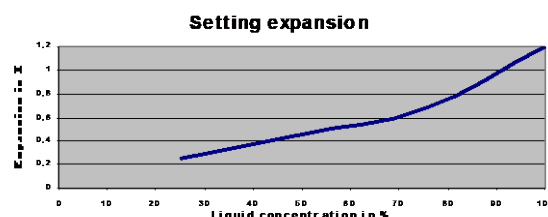
### Crown and Bridge Investment Material

DUOVEST is a phosphate-bound precision investment material for all precious, metal to ceramic and non precious alloy. DUOVEST can be used as Speed investment or the traditional way by using the Preheating progress.

<b>Setting expansion</b>	<b>1,20 %</b>	Flow capability	18 cm
<b>Thermal Expansion</b>	<b>1,10 %</b>	Working time (20-22 °Grad)	4-7 min
<b>Total expansion</b>	<b>2,30 %</b>	Pressure	4 MPa

Physical properties (100% Liquid-Concentration) EN ISO 9694 (1998)

Ring	DUOVEST Powder	DUOVEST Liquid/dist. Water
X3	1x160g	42 ml
X6	2x160g	84 ml
X9	3x160g	126 ml

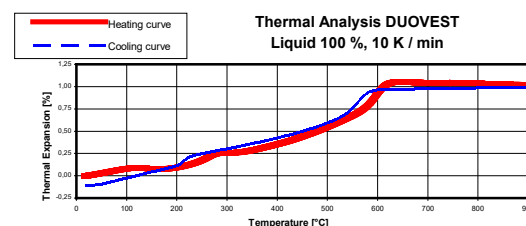


### Expansion

DUOVEST Investment will be mixed with the DUOVEST Liquid as mentioned in the below table . The Expansion of the investment can be controlled by the quantity of the distilled water mixed with the DUOVEST Special Liquid. The total liquid quantity (160g-42ml) must not be exceeded. The *Expansion* of DUOVEST is even to the metal contraction according to the below table depending on the type of alloy used by the technician.

**Higher is the concentration of the special liquid, higher is the total expansion of the investment.**

Type of the Alloy	Mixing Ratio
Crown and Bridge / Wax	
Low melting alloys Concentrate	50%
Metal to Ceramic alloys Concentrate	85%
Non precious alloys Concentrate	95%
Inlays and Telescope crown / Wax	
Low melting alloys Concentrate	55%
Inlays and Telescope crowns / Synthetic materials	
Non precious alloys Concentrate	65%



### STORAGE

The storage of the powder and the special liquid must be done at a normal room temperature (21°C). In case the Special Mixing Liquid of the investmnet is subjected to a temperature below 5 °C, it will be damaged and not be suitable to be used. Storage

shelf life DUOVEST Powder and DUOVEST Liquid is 24 months.

### Packaging

Item. Nr.: 950-0160	DUOVEST Powder	- 4,0 kg (25x160 g)
Item. Nr.: 951-1000	DUOVEST Liquid	- 1000 ml Bottle
Item. Nr.: 952-0000	DUOVEST Powder + Liquid	- 4,0 kg (25x160 g) + 1000 ml

### Operating Instructions

Best and steady results are obtained when storing and working at a constant room temperature of 21°C (min. 20°C).

The mixing bowls must not be dry and not suitable for mixing gypsum. The mixing units might have an influence on the quality and your work, for that reason they must be regularly checked.

### Preperation

Dokument:	Erstellt am/von:	geändert am/von:	Revision:	freigegeben am/von:	Seitenzahl:
BA	13.07.2012/TB	08.04.2019/QM	0	08.04.2019/TB	Seite 1 von 2

# Operating Instructions

Debubbilizer can be used, (Yeti 142-0000) but it is not obligatory. Be sure that the wax is totally dry before start working.

## Flask System

Use a wet flask liner and coat totally the metal casting flasks. Use a double coat liner when using a X3 flask and from X6/X9 we recommend to use a three time coat liner.

**Do not apply Vaseline on the flask system.**

## Mixing

First fill in the liquid and than the powder and mix by hand with a clean spatula (not a gypsum spatula). Put the under vacuum for 15 seconds without using the mixing machine. Than the Investment must be mixed for 60 seconds under the vaccum (250 revs./min).

## Setting Time

The working time (21 °C) is 6 Minutes since starting the mixing procedure. The setting time must be carried out under small Vibration. Stop the filling and the usag of the vibrator when the metal ring is full, and let the casting flask sets for about 30 minutes.

It is also recommended to have the flask set without pressure.

## Deflasking

After a setting time of 20 Min. at room temperature and having the flasks cool down deflask prudentloy.

## Preheating temperatures

Adjust your oven at the necessary temprature depending on the type of alloy used, and place the flask with the sprue former downwards on the corrugated base plate of the preheating furnace.

Use a sharp knife to scratch the surface of the investment in the upper part of the flask.

700-750°C	for Gold Cast Alloys
750-850°C	for Metal to Ceramic Alloys
850-900° C	For Non precious Alloys

## Rapid Firing

After the setting time of the investment (20 min.), place the flask directly in the furnace at a temperature of 900 °C and continue to heat to the final temperature according to the type of alloy used (900°C for non precious alloys). Increase the heating time in the furnace about 10 min. for each additional flask.

**Holding time at final temperature**      **X3 for 30 min.**      **X6 for 45 min.**

## Conventional Heating Process

Heating process	Heating rate	x 3	x 6	x 9
1. Holding step 290°C	3-5 °C/Min.	20 min.	30 min.	40 min
2.- Holding step 590°C	6-7 °C/Min.	20 min.	30 min.	40 min.
3. Final temperature 750-900°C	8-10 °C/Min.	20 min	30 min.	40 min.

When casting under vacuum/pressure increase the final temperature by approx. 50 °C.

## Casting/Cooldown

Upon removal from oven, independent from the way of casting, centrifuge, vacuum pressing, open flame, immediatly cast according to alloy manufacturer's instructions. Place the flask with the sprue former in the upper direction to allow a rapid cool down of the DUOVEST in a room temperature.

## Important recommendations

The investment material contains Quartz. Do not BREATH DUST ! May cause delayed lung injury.

The above given instructions correspond to the actual technical status. We assure a very high top quality of our products, any claim must be only made up on the quality of our marchandise.

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