User instructions

PH3 Investment

Phosphate-bonded investment with special mixing liquid for non-precious metal alloys

Plaster and graphite free

Made in France

Elephant Dental B.V.

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Indication
For Elephant casting alloys in precision duplication with gel duplication material Perflex, Polyflex, Cruta Gel and Silflex Pink, Silflex Blue or Silflex Orange Speed duplicating silicones.

Contraindication
If there is an allergic reaction to any of the components, the material should not be used.

Technical data
(for processing with duplication gel)
Working time: approx. 4 min.
Setting time: 45 min.

(for silicone duplication)
Working time: approx. 4 min.
Setting time: 10 min.

Total expansion
Using standard mixing liquid diluted with distilled water

Mixing liquid		Distilled water	Total expansion
75%	:	25%	2,11% ← maximum
65%	:	35%	1,91% ← recommended

Setting expansion
Using standard mixing liquid diluted with distilled water

Mixing liquid		Distilled water	Setting expansion
75%	:	25%	0,98%
65%	:	35%	0,83%
50%	:	50%	0,65%

Thermal expansion
1,03 - 1,17%

Fabricating the duplicate model
Using diluted mixing liquid
(65% mixing liquid: 35% distilled water).
- Prepare the master model as usual. If agar-agar gel is used for duplicating, the model should be rinsed for 10 minutes at 37°C.

Mixing ratio for PH3
- Duplicated with Silflex Pink, Silflex Blue or Silflex Orange Speed duplicating silicone.
  150 g powder: 24 ml mixing liquid (16 ml: 100 g) or
  1 bag = 400 g powder*: 64 ml mixing liquid
- Duplicated with Polyflex, Perflex or Cruta Gel duplication material (agar-agar gel)
  150 g powder: 22.5 ml mixing liquid (15 ml: 100 g)
  **1 bag = 400 g investment is sufficient for 2-3 models*

- Use a mixing bowl specially for phosphate-bonded investments. (Do not use the mixing bowl for investments containing plaster or graphite.)
- Add the powder to the mixing liquid and spatulate manually for 10 sec.
- Then mix under vacuum for 40 sec.
- Degrease the silicon duplicate mould with degreasing agent
- Pour the mixed investment PH3 into the silicone or gel duplication mould under vibration.
- Remove the duplicate model from the silicon duplication mould after 15 minutes, or after 45 minutes if a gel duplication mould was used.
- The PH3 model can be trimmed on the dry trimmer.

Hardening the PH3 duplicate model (after duplication with silicone)
Following duplication with Silflex Pink, Silflex Blue or Silflex Orange Speed duplicating silicone.

After transferring the surveying lines, the PH3 model should be:
- Preheated to 40°C.
- Sprayed with PH3 model spray from a distance of 20-30 cm (Art. no. 8010600).
- Allowed to dry for 5 min.
- Cooled to hand heat.
- Cleared of any loose investment with a soft brush.

PH model spray can also be used as an adhesive for wax patterns and Flexseal® adhesive liquid (Art. no. 8010105 or 8010135) can be used to provide extra adhesion.

(after duplication with gel)
After duplication with Perflex, Polyflex or Cruta Gel duplication gel.
Use Bio Dip hardener for cold submersion (art.no. 8010450)

After transferring the surveying lines, the PH3 model should be:
- Heat the model to 230°C in the drying furnace (approx. 45 minutes)
- Apply cold submersion treatment with hardener (8 to10 seconds)
- Place the model back into the drying furnace (approx. 1 min.)
- Cooled to hand heat.
- Cleared of any loose investment with a soft brush.

Waxing up
- Wax up using wax pattern and/or Flexseal® plastic patterns.
- Attach sprues and sprue former.
- Prepare the pattern for investing.

Investing
For standard metal denture bases dilute PH3 mixing liquid in the same ratio used when fabricating the model = 65% mixing liquid: 35% distilled water.

Mixing ratios for the casting ring

Powder		Mixing liquid
100 g	:	16 ml
200 g	:	32 ml
300 g	:	48 ml
400 g	:	64 ml

1 bag of PH3 contains 400 g powder and is sufficient for 1 casting ring.

- Add the powder to the mixing liquid and spatulate manually for 10 sec.
- Then mix under vacuum for 40 sec.
- Vibrate the PH3 into the casting ring: then remove from the vibrator.
- Allow the PH3 to harden for 30 min.

Heating the casting rings
Place the casting rings in a cold burnout furnace.
Allow sufficient space between the casting rings to ensure that the air circulates during heating.
At 270°C – holding time = 30 min.
At 600°C – holding time = 30 min.
At 980°C – holding time = 30 min.

Heat rate:
Approx. 7°C/min.

Casting
Melting and casting should be carried out according to the instructions of the alloy and the casting unit manufactures.

Devesting
Allow the muffle to cool slowly to room temperature before devesting.
Devest under water.

Assortment		***Art. no.***
1 Box/24 kg	PH3 Investment (60 x 400 g bags)	8022324
1 Box/20 kg	PH3 Investment (8 x 2.5 kg bags)	8022365
1 l	PH3 Mixing liuid (1 bottle)	8022305

Important information for use and storage
- Only use the investment at a well-ventilated workstation and wear a safety mask (P2) when working with the investment.
- The powder and the mixing liquid should be mixed at 20°C to guarantee a consistent setting time and expansion.
- Protect the mixing liquid from frost and heat. (if the mixing liquid freezes, it becomes unusable, so order well in advance of the start of winter!)
- Keep container tightly closed.
- Use by: approx. 18 months after the date of manufacturing (see label of box).

Warning!
R20 Harmful by inhalation
R36/37/38 Irritating to eyes, respiratory system and skin
S22 Do not breathe dust
This product contains respirabel silica. When inhaled respirabel silica can cause silicosis and is suspected to be carcinogenic. Avoid inhalation, consult MSDS for precautions: www.elephant-dental.com.