

# Servo Norm

Phosphate bonded precision investment

Servo-Norm is a phosphate bonded precision investment for crowns and bridges meeting all requirements of modern dentistry. Thanks to its remarkably fine grain composition, silky-like, smooth casted surfaces are achieved.

Servo-Norm can only be mixed with Servo-Norm-Liquid-concentrate. In order to control exactly the total expansion of Servo-Norm, this concentrate can be mixed with distilled water in any proportion. Thus, casting results of highest precision are achieved.

#### Instructions for use:

Servo-Norm should be processed using a metal muffle ring and reliner. The ends should overlap appr. 5 to 10 mm. Up to ring size 3 one reliner layer is enough, while up from size 6 two layers are necessary.

If needed, spray some wax wetting agent onto the wax-up.

#### Mixing:

Carefully mix by hand 150 g of Servo-Norm-Investment with 36 ml of Servo-Norm mixing liquid (ring size 3) in a mixing bowl by means of a spatula, until a uniform moistening is achieved. The liquid may also be used diluted. The following vacuum mixing process should last at least 60 to 90 sec.

#### Time of processability:

This is appr. 6 minutes. Carefully fill the flasks on the vibrator and then let them harden for about 60 to 90 min with the vibrator being switched off.

#### Heating:

After setting, place the flasks in the cold furnace and preheat to 300 °C (appr. 5 °C/min) - depending on the size and number of flasks. Keep this temperature for 30 to 60 min. Then, heat up to 600 °C (appr. 5-7 °C/min) and keep this temperature for 30 min. After this, run the heating process up to the desired final temperature (appr. 9 °C/min) and keep it for 30 to 60 min. After casting, let the flasks cool down to body temperature and then deflask carefully.

Ring size	Servo-Norm-Powder	Servo-Norm-Liquid
1	50 g	12 ml
3	150 g	36 ml
6	300 g	72 ml
9	450 g	108 ml

We recommend the following final temperatures:

Precious alloys	650 – 700 °C
Ceramics alloys	750 – 800 °C
Non-precious alloys	820 – 850 °C

## Liquid concentrations

### Crowns and bridges

		Inlays		
		1-sided	2-sided	3-sided
High gold content ceramics alloy	40 %	60 %	45 %	30 – 35 %
Reduced ceramics alloy	40 %	60 %	45 %	30 – 35 %
High gold content precious alloy	25 – 30 %	50 %	40 %	40 %
Reduced gold content precious alloy	30 %	60 – 65 %	50 %	20 – 25 %
Non-precious alloy	90 – 100 %			

### Telescope crowns/Cone crowns

Dipped wax caps		0°	2°	4°	6°
High gold content and reduced precious alloy		15 % (short) 25 % (long)	20 %	15 %	10 %
Non-precious alloy		90 – 100 %			
Deep-drawn foils (soft)		0°	2°	4°	6°
Light curing resin (soft)		0°	2°	4°	6°
High gold content and reduced precious alloy		50 % (short) 60 % (long)	50 %	30 %	15 %
Non-precious alloy		<sup>1)</sup> 100 %		90 – 95 %	
<sup>1)</sup> with circular milling					
Pattern resin		0°	2°	4°	6°
High gold content and reduced precious alloy		60 % (short) 70 % (long)	60 %	55 – 60 %	
Non-precious alloy		100 %		90 – 95 %	



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#### General information

All data correspond to a room temperature of 22 °C.

When using only small quantities of investment (for ex. 50 g), the vacuum mixing time should be extended to 120 sec. in order to achieve a better moistening. It is not necessary to let the flask harden or to invest under pressure. This should even be avoided (tensions).

When using hard plastic cylinders, it is recommended to coat them with reliner, too (setting expansion).

During the setting phase, all investment materials must harden on an absolutely vibration-free place. All kinds of vibrations easily lead to faulty castings.

**Servo-Norm** is a phosphate bonded precision investment with excellent chemical and physical properties for all precious, ceramics and non-precious alloys.

**Servo-Norm** can be adjusted to the corresponding expansion for any type of alloy by changing the concentration of the liquid.

**Servo-Norm** offers a very precise reproduction. An ultrafine grain composition and thermal stability guarantee perfect cast surfaces.

**Servo-Norm** has a sufficient time of processability and excellent flowing properties.

**Servo-Norm** can be sand-blasted with low pressure (0.5 to 2.0 bar) in order not to damage the smooth casted surfaces and precision parts.

**Servo-Norm** has a total expansion of appr. 3.8 %.