

**POLITERM SPEED** je fina vložna masa namenjena izdelavi delnih protez z ulito bazo in vrhunskih kombiniranih del po postopku hitrega ali običajnega stopenjskega segrevanja.

FIZIKALNE LASTNOSTI	
Mešalno razmerje (prah/tekočina)	100g / 18 ml
Fluidnost	13 cm
Delovni čas (23°C)	3 min
Začetek strjevanja (23°C)	5 min
Termična ekspanzija	0,9%
Tlačna trdnost	20 MPa

#### POMEMBNO!

- Vložna masa vsebuje kremenčev prah. Vdihovanje prahu je zdravju škodljivo in povzroča silikozo ali pljučnega raka.
- Obstaja nevarnost nastanka plamena pri hitrem segrevanju, zato držite vrata peči zaprta najmanj 15 minut po vstavitvi cilindra. V tem času ne vstavljajte drugih cilindrov v peč.
- Prah in tekočino shranjujete pri sobni temperaturi (23°C). Tekočina izpostavljena temperaturi 5°C ali pod želira in ni več uporabna.
- Bodite pozorni na datum uporabe prahu in tekočine. Po pretečenem roku uporabe ju ne uporabljajte več.
- Vložna masa Politerm speed ne sme priti v stik z mavci ali mavčnimi vložnimi masami.
- Politerm speed vložna masa ima lastnost hitrega strjevanja z relativno kratkim delovnim časom. Za dosego primerno dolgega delovnega časa shranjujte prah in tekočino v hladnem prostoru. Priporočamo, da pri visokih temperaturah v prostoru shranjujete prah in ekspanzijsko tekočino v hladilniku ali v prostoru s kontrolirano temperaturo okrog 18°C.

## NAVODILA ZA UPORABO

### 1. DUBLIRANJE

Model lahko dubliramo s silikonom ali dublirnim gelom. Dubliranja v gelu ne izvajamo pod pritiskom.

Pred mešanjem vedno očistite in popolnoma osušite mešalno posodico. Mešanje Polterm speed prahu in tekočine naj poteka tako, da v mešalno posodico natočite najprej tekočino potem dodajte prah in mešajte ročno z lopatko približno 15 sekund, nato pa še 60 sekund pod vakuumom.

Tabela 1: Mešalno razmerje za DUBLIRANJE

Za 2 modela				
Politerm speed PRAH	Polisol TEKOČINA	Dest. voda	SKUPAJ: Tekočina za mešanje	Koncentracija Polisol tekočine
1 x 400 g	54 ml	18 ml	72 ml	75 %

V odtis iz gela oziroma silikona ulite vložno maso pod rahlim vibriranjem. Ko je vložna masa ulita do vrha, vibriranje ni več potrebno.

### 2. SUŠENJE IN UTRJEVANJE MODELA

#### Dubliranje v silikon:

Dublirani model iz vložne mase vzamete iz silikona po 20 minutah. Za lažje modeliranje in dosego gladke površine modela je potrebno model sušiti na 100°C 20 minut. Utrjevanje modela ni nujno potrebno. Za boljše oprijemanje voščenih konstrukcij priporočamo uporabo sredstva za boljše adhezijo na model. Pustite, da se model ohladi na temperaturo, ko ga lahko primete z rokami in nadaljujete z modelacijo.

#### Dubliranje v gelu:

Dublirani model iz vložne mase vzamete iz gela po 40 minutah. Model sušite na 150 – 200°C 30 minut, nato ga potopite v utrjevalec za približno 5 sekund in ga ponovno sušite v peči na 150 – 200°C še 5 minut. Pustite, da se model ohladi na temperaturo, ko ga lahko primete z rokami in nadaljujete z modelacijo. Za hitro segrevanje uporabite dolivne kanale najmanj premera  $\varnothing$  4 mm.

### 3. VLAGANJE

Politerm speed prah mešate skupaj s tekočino z lopatko 15 sekund in pod vakuumom še 60 sekund.

Tabela 2: Mešalno razmerje za VLAGANJE

Za izdelavo enega cilindra				
Politerm speed PRAH	Polisol TEKOČINA	Dest. voda	SKUPAJ: tekočina za mešanje	Koncentracija Polisol tekočine
1 x 400 g	36 ml	36 ml	72 ml	50 %

Delovni model postavite na vibrator in pod rahlim vibriranjem zalijte zgornji del cilindra. Po končanem vlaganju cilinder odstranite z vibratorja. Plastične manšete odstranite po 10 minutah strjevanja. Priporočamo da ne uporabljate samolepilnega manšetnega traka.

### 4. SEGREVANJE

#### Hitro segrevanje:

Priporočamo, da pri postopku hitrega segrevanja zgornji del cilindra obdaja delovni model z robom širine najmanj 1 cm. Po 30 minutah od začetka mešanja postavimo cilinder v peč predhodno ogreto na 600°C. Takoj za tem začnemo segreti na končno temperaturo 900 – 950°C. Ulivate 60 minut po tem, ko dosežete končno temperaturo v peči.

#### Stopenjsko segrevanje:

Po 30 minutah strjevanja postavite cilinder v hladno peč. Segrevate na 250°C in držite na temperaturi 45 minut. Nato segrevate na končno temperaturo 900 – 950°C in vzdržujete temperaturo 45 minut. Z vzdrževanjem temperature v peči na 570°C 30 minut boste dobili še boljše rezultate.

### 5. HLAJENJE

Po ulivanju postavite cilinder na podlago z vrhno stranjo navzgor in pustite da se na zraku popolnoma ohladi. Cilindra ne ohlajajte pod vodo!



Politerm speed powder  
Polisol liquid

**POLITERM SPEED** is a fine grained model casting investment material for rapid burn out as well as for traditional slow heating processes. It is suitable for partial dentures and high-quality combination works.

PHYSICAL DATA	
Mixing ratio (powder/liquid)	100g / 18 ml
Fluidity	13 cm
Processing time (23°C/ 73,4°F)	3 min
Initial setting time (23°C/ 73,4°F)	5 min
Thermal expansion	0,9%
Compressive strength	20 MPa

#### IMPORTANT!

- Investment contains silica. Avoid inhalation of dust. Danger of lung harms (silicosis, lung cancer).
- Formation of flames during quick heating! Keep furnace door 15 minutes closed after insertion of the mould! Do not insert further moulds during this time!
- Store the powder and liquid at a normal room temperature (23°C/ 73,4°F). If the liquid is exposed to temperatures at or below 5°C (41°F), the liquid will freeze and cannot be used thereafter.
- Observe shelf life date for investment material and expansion liquid. Do not use after this date without inspection.
- Do not place Politerm speed in contact with plaster or plaster-bonded investment materials.
- Politerm speed investment is a quick setting material with a relatively short processing time. In order to extend processing time, the powder and liquid should be stored in a cool place. At high ambient temperatures it is recommended to store the powder and the liquid in a refrigerator or in the temperature control cabinet at approx.18°C (64,4°F).

#### INSTRUCTIONS FOR USE

##### 1. DUPLICATION

Duplication can be carried out in silicone moulds or in gel moulds. Duplication in gel moulds should always be carried out without pressure. Before mixing, rinse out the clean mixing bowl with water and wipe off. Mix Politerm speed powder together with mixing liquid. First put in liquid and add powder, mix thoroughly with spatula for at least 15 seconds. Then mix in a vacuum mixing unit for 60 seconds.

Table 1: Mixing ratios for DUPLICATION

For 2 duplicate models				
Politerm speed POWDER	Polisol LIQUID	Distilled water	TOTAL Mixing liquid	Concentration Polisol liquid
1 x 400 g	54 ml	18 ml	72 ml	75 %

Fill duplication mould on the vibrator and then remove it immediately from the vibrator.

##### 2. DRYING AND HARDENING THE DUPLICATE MODEL

###### Silicone duplication:

Duplicating models are removed from the mould after 20 minutes. For easier wax-up and smoother casting surface, it is required to dry the model surface at approx. 100°C (212°F) for 20 minutes. Hardener is not necessary. To ensure that modelling waxes adhere better, it is recommended to use an adhesive for wax and plastic patterns. Allow to cool down until warm to the touch and then carry out modelling work.

###### Gel duplication:

Duplicating models are removed from the mould after 40 minutes. Dry model at approx. 150 - 200°C (302 - 392°F) for approx. 30 minutes. Dip the model for approx. 5 secs. in the hardener and dry it again at approx. 150 - 200°C (302 - 392°F) for approx. 5 minutes. Allow to cool down until warm to the touch, then carry out modelling work. For speed operation, only use sprues of ø 4 mm.

##### 3. INVESTMENT

Mix Politerm speed powder together with mixing liquid using a spatula for at least 15 seconds. Then mix in a vacuum mixing unit for 60 seconds.

Table 2: Mixing ratios for INVESTMENT

For 1 mould				
Politerm speed POWDER	Polisol LIQUID	Distilled water	TOTAL Mixing liquid	Concentration Polisol liquid
1 x 400 g	36 ml	36 ml	72 ml	50 %

Fill mould ring on the vibrator and then take away from vibrator immediately. Remove the mould ring 10 minutes after investment! Do not use slotted flasks.

##### 4. PREHEATING

###### Speed preheating:

There must be at least 1 cm of investment material surrounding the refractory model at speed preheating processes. After 30 minutes after starting mixing procedure, put the mould into the furnace, which has been preheated to 600°C (1112°F). Then heat up to the final temperature 900 - 950°C (1652 - 1742°F). Casting can be carried out at least 60 minutes after reaching the desired final temperature.

###### Traditional slow preheating:

After a setting time of 30 minutes place moulds in cold furnace. Heat up to 250°C (482°F) and maintain there for 45 minutes. Then heat up to final temperature and maintain at this temperature for 45 minutes. A second holding stage at 570°C (1058°F) for 30 minutes provides even greater assurance of uniform results.

##### 5. DEVESTING

After casting, allow moulds to cool down in contact with the air until warm to the touch. Do not place in water!