zubler 144™ 1 Powder for 4 Applications

Speed Investment for pressable ceramics, zirconia and alloys (excluding titanium)

INSTRUCTIONS:

1. Measure Distilled Water & Special Liquid in a mixing bowl and add investment powder.
2. Start timer for TOTAL TIME (25 min) in the BENCH SET chart.
3. Mix the investment by hand with a spatula for 15 sec.
4. Add vacuum to the bowl for 15 sec.
5. Mix for 90 sec. under vacuum at 420 R.P.M.
6. Fill ring carefully, adapting the investment to patterns under vibration.

Do not put rings in a pressure pot!

7. Bench Set: At the 20 min. mark, remove the ring from the former and let it set on the bench outside of the ring for the remainder of the bench set time (5 min). This will allow the moisture to evaporate.

See BENCH SET for times.

8. Dry scrape the top of the ring to break the surface tension. Do not let the rings come into contact with moisture prior to burnout.

Burn out:

Note: Burnout temperatures vary by press or casting material. Consult the manufacturer of the porcelain or metal for proper burnout temperature. Below are some common temperatures.

Casting / Metal	Press Ceramic
1600°F (871°C)	1562°F (850°C)

9. **Speed technique** - place rings in a pre-heated oven at the recommended burnout temperature.
   - Rings must be placed with the sprue hole down.
   - Position rings to the rear part of the furnace with a minimum distance of about 1-inch to the back and side walls.
   - Make sure the wax can flow out unhindered in the burnout furnace.

INSTRUCTIONS CONTINUED:

10. If you have more than one ring, wait 10 minutes before the next ring is placed in the oven or place them into the oven at the same time.
11. Burnout times vary by rings size:

60/100g Rings	200g Rings	300g Rings
45 Min	60 Min	90 Min

Additional rings add:

- 10 minutes per 60/100 gram ring.
- 15 minutes per 200 gram ring.
- 20 minutes per 300 gram ring.

Shorter pre-heating causes incomplete casting, rough surfaces and micro bubbles.

12. **Overnight technique**, use a heat rate of 15-20°F per minute, up to 570°F and hold for 45-60min. Then 15-20°F per minute, up to the final temperature and hold for 45-60min.

- To achieve the same results as the speed technique, decrease the liquid ratio 10%.

13. **Resin wax**, place the ring into the furnace at 750°F and heat up to final temperature.
14. **Non-precious and palladium based alloys**, please use two layers of ring liner to ensure sufficient expansion when using metal rings.
15. After the casting or pressing procedure, slow cooling to room temperature is required.

Processing investment should take place in a 68°-75°F room. When storing the investment, please be sure the temperatures are between 45°-80°F. Please allow investment powder and liquid to reach room temperature before processing.

WARNING: Investments contain free silica **DO NOT BREATH DUST.** May cause delayed lung injury (silicosis/lung cancer).

TECHNICAL REFERENCE:

RATIOS FOR PRESSING:

	Powder	Ratio	Liquid	Dist. Water
Crowns + Veneers	100gr	80%	20.0 ml	- 5.0 ml
Inlays	100gr	50%	12.5 ml	- 12.5 ml
Press-to	100gr	70%	17.5 ml	- 7.5 ml

RATIOS FOR CASTING:

	Powder	Ratio	Liquid	Dist. Water
High Noble Alloys	100g	55%	14.0 ml	- 11.0 ml
Noble Alloys	100g	75-80%	18.75 ml 20.0 ml	- 6.25 ml - 5.0 ml
Base Alloys	100g	90-100%	22.5 ml 25.0 ml	- 2.5 ml - 0.0 ml

All data are recommendations. Different mixing machines, working procedures and materials can yield different results.

MIXING:

Pre Vac	Min Rpm	Max Rpm	Mix Time
15 Sec	350	420	90 Sec

Approximate working time 7 Minutes

BENCH SET:

Wax Type	Ring Size	Inside	Outside	Total Time
Hand Wax	60/100gr	20 min	5 min	25 min
Hand Wax	200gr	20 min	5 min	25 min
Milled High Resin	60-200gr	20 min	5 min	25 min
Printed High Resin	60-200gr	20 min	5 min	25 min

Bench set times start when powder is added to liquid

Inside = Bench set time inside ring former

Outside=Bench set time outside of ring former

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