

FUJI POWDER: PREMIUM PLATINUM INVESTMENT

PACKAGE CONTENTS

- A. Yasui Fuji Powder** 25 kg
B. Yasui Fuji Binder 250g



1. TREEING AND FLASK PREPARATION

A. Attach the wax button (P/n 74-000-WC) by heating the bottom of it and straddle it over the $\frac{3}{4}$ " hole.

B. Mount your wax patterns to the button at a minimum 45 degree angle up from the button.

C. Carefully place a sheet of non-asbestos paper completely around the inside of the flask to line the inside of the flask.

D. For a 3" Long flask, use non-asbestos roll, which measures 2 $\frac{1}{2}$ " (53mm) wide (SKU: 76-0855) so that it will be $\frac{1}{4}$ " (6mm) short at each end of the flask. This allows for the necessary absorbency of the binder and allows space for the investment to attach to the inside of the flask.

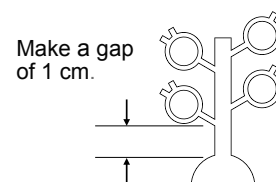
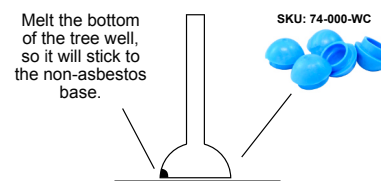
E. Place the stainless steel 2.75mm flask, usually 3" (80mm) x 3" (80mm) (SKU: 76-047) over the wax patterns and centered on the 4" x 4" non-asbestos square (SKU: 76-0881-SQ).

F. Then use hot sticky wax (SKU: 74-0603-KG) to attach and seal the outside of the flask to the 4"x4" base, making it water tight seal. You can dip the bottom rim of your flask into a melted liquid container of the sticky wax.

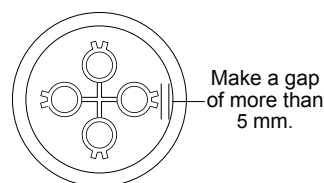
G. Add masking tape around the top of the flask, approximately 1.5" to extend around the top of the flask to allow the investment to rise during vacuuming. It is important that you fill the flask up to the top the first time rather than "top off" with a second filling.



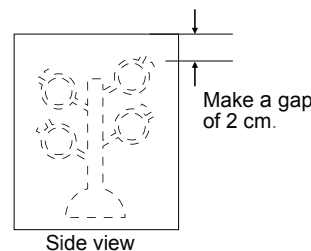
Wax cone



Stainless Steel Flask (Top View)



Stainless Steel Flask (Side View)



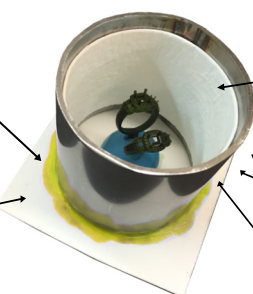
Yellow Sticky Wax Beads
SKU: 74-0603-KB



4" Square Base
SKU: 76-0881-SQ



4" Round Base
SKU: 76-0881-4RND



Non-Asbestos Paper Roll
SKU: 76-0855 (2.5" x 1/16" x 75')

Stainless Steel Flask
SKU: 76-047-I (80mm x 80mm Flask)

Stainless Steel Flask
SKU: 76-047 (3" x 3" Flask)

Yasui Stainless Steel Coated Flask
SKU: 76-049-Y (80mm x 100mm Flask)

2. MIXING INSTRUCTIONS



WARNING ! Wear gloves, eye protection goggles and a respirator when handling the investment as the material contains **crystalline silica**, which **may cause lung injury** when inspired.

WEIGH INVESTMENT



Step A: Weigh the required amount of investment with an investment scale. The powder mixing ratio is 100 parts **Fuji Powder** (Part A) to 1 part **Fuji Binder** (Part B).

INVESTING (Measure water by volume, not by weight!)



Step B: Mix Fuji Investment Powder and binder combination with distilled water. The ratio is 30% water to 100% combined powders.

** The importance of accurate weighing and adequate mixing cannot be overemphasized. Guessing at the proportions or proportioning "by eye" is the surest way to casting failures. Be sure to follow these instructions carefully.*

Investment Powder (100% Part A,)	Binder Powder (1% Part B,)	Distilled Water (30-33%/100 Powder)
1 lb (454g)	4.5g	4.85 fl. oz. (137.6 ml)
5 lb (2270g)	22.7g	24.3 fl. oz. (687.8 ml)
10 lb (4540g)	45.4g	48.5 fl. oz. (1375 ml)
25 lb (11,350g)	113.5g	121 fl. oz. (3439 ml)

INVESTMENT WEIGHT CALCULATION CHART

To determine the proper amount of distilled water and powder to use per flask, locate the volume of the flask you are using on the chart below.

Cubic Volume By Flask					
Height →	2.5 inches	3.0 inches	3.5 inches	4.0 inches	5.0 inches
Diameter ↓	(6 cm)	(7 cm)	(8 cm)	(10 cm)	(12 cm)
2.5 inches	12.3 in ³	14.7 in ³	17.2 in ³	19.6 in ³	24.5 in ³
(6 cm)	(201 cm ³)	(241 cm ³)	(201 cm ³)	(321 cm ³)	(400 cm ³)
3.0 inches	17.7 in ³	21.2 in ³	24.7 in ³	28.3 in ³	35.3 in ³
(7 cm)	(290 cm ³)	(348 cm ³)	(405 cm ³)	(463 cm ³)	(579 cm ³)
3.5 inches	24.1 in ³	28.9 in ³	33.7 in ³	38.5 in ³	48.1 in ³
(8 cm)	(395 cm ³)	(474 cm ³)	(553 cm ³)	(632 cm ³)	(790 cm ³)
4.0 inches	31.4 in ³	37.7 in ³	44.0 in ³	50.3 in ³	62.8 in ³
(10 cm)	(514 cm ³)	(618 cm ³)	(721 cm ³)	(824 cm ³)	(1030 cm ³)

Using the volume located in the previous step, calculate the weight of the combined powders and the volume of the distilled water for your flask size using the following equations. The general mixing ratio is distilled water (in volume)/ powder (in weight) = 30/100. (Although we have provided exact measurements, it is not unusual for casters to vary the mix ratio of water from 30-33% / 100 [liquid/powder]).

Standard Measure	Metric Measure
Flask Volume (in ³) x 0.0527 lbs = ____ lbs powder	Flask Volume (cm ³) x 1.4524 g = ____ g powder
Flask Volume (in ³) x 0.2426 fl oz = ____ fl oz. distilled binder	Flask Volume (cm ³) x 0.4357 ml = ____ ml distilled binder

3. FINAL STEPS



ADD INVESTMENT TO WATER



Step A: Always add the investment to the distilled water, **never the reverse!**

MIXING THE INVESTMENT



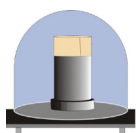
Step B: Mix them well using a powerful mixing machine at the medium speed for about 15 minutes. Then immediately proceed to the next Step 5 for the 1st vacuum.



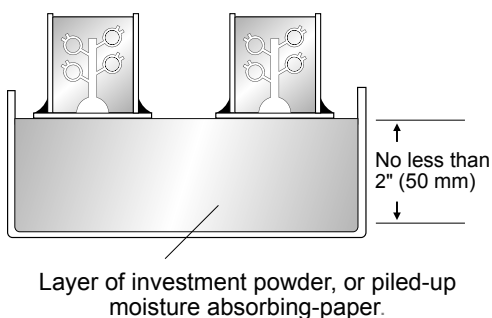
Step C: Immediately after the slurry is mixed, the primary vacuum should be carried out for the bowl of slurry under a bell jar for about 2.5 minutes.



Step D: Pour the above slurry into flasks, and then immediately proceed to the next Step 7 for the second vacuum.



Step E: Immediately after the slurry is poured into the flasks, the secondary vacuum should be carried out for the invested flasks under a bell jar for approximately 2 - 3 minutes. While vacuuming, add slight vibration to assist the degassing process.



Step F: Place the invested flasks on the layer of the investment or moisture absorbing papers to let them absorb water from the flasks. Leave them for about 3.5 - 4 hours to dry (can be up to 10 hours). The required time for adequate drying varies depending upon the layer of investment powder, moisture absorbing paper, and the size of the flask.

- Be sure to place the flask in an area where it will not be disturbed or vibrated during the entire drying period.
- After your job is finished, the dry layer of investment powder or moisture absorbing paper can be used again for the next batch of investment.

Step G: Remove the attached papers from the flasks, and then place the flasks into burnout furnace. The following chart shows a suggested burnout program.

