

Best Practices

PIC 100



Questions or comments:
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First the parts need to be prepared in 3D CAD and converted in to a .stl file format. It is helpful if a large 6 mm diameter cone support can be added to the bottom of the shank not only to assist with part building but it is beneficial as this acts as a sprue for the wax pattern.

The type of perfactory machines commonly used for jewelry pattern production are Perfactory® Mini Series, Aureus or Micro Series these tend to give the best accuracy and surface finish.

Perfactory® Mini Series



Aureus



Micro Series



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PIC 100 Instructions

Page 2

After growing the model and removing from the printer, clean the jobs thoroughly insuring there are no shiny areas.



Using a soft brush and alcohol quickly clean the jobs. Any shiny areas are uncured resin. Be sure to remove all uncured resin as that will negatively effect the casting process.



Gently blow air on the jobs to fully dry the alcohol.



After cleaning, place the jobs in the curing unit. Use 6500 cycles 4 times. Be sure to flip the jobs after each curing cycle to insure complete curing of the parts.



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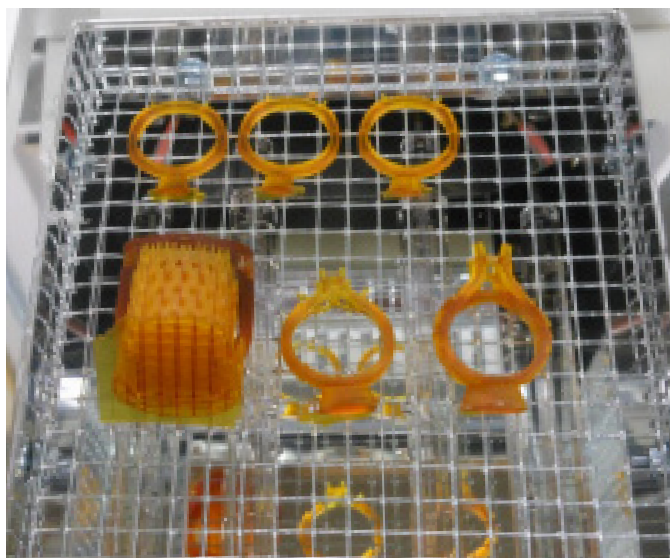
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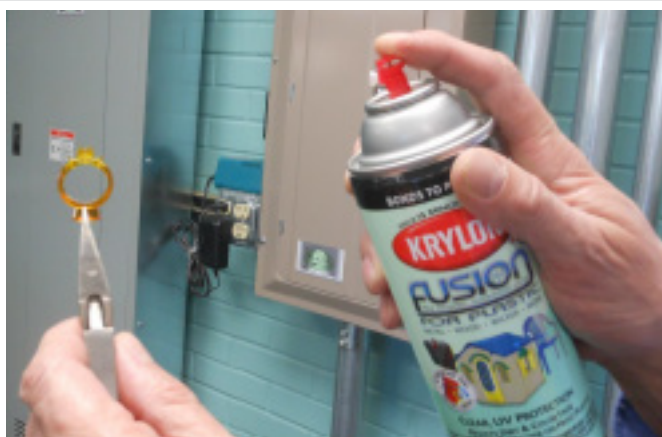
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Evenly space the jobs in the curing unit to insure all sides receive the light.



Once parts are cleaned and cured, spray an even coat of Krylon Fusion. Use a minimum of 3 coats and allow each coat to dry for 15 minutes before applying the next coat.



Sprue in traditional terms being sure to not create voids or sharp angles.



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Weigh the powder and measure the liquid based on manufactures recommendations. Be sure to refrigerate liquids and if possible pre-weigh powders, place in sealed plastic bags and refrigerate as well.



Add liquid first and then incorporate the powder.



Hand mix for 10 seconds.



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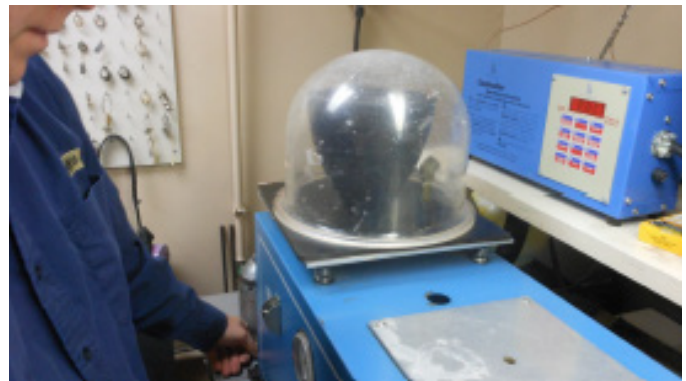
For Doc Robinsons, mix on high speed for 1 minute. For Plasticast mix for 30 seconds on slow speed and 1.5 minutes on high speed.



Pour mixture into bowl for vacuumed pressure.



Place under vacuum.



For refrigerator kept Doc Robinsons materials, bring to full vacuum and release 4 times. For Plasticast, let rise once and hold for 30 seconds to 1 minute. Times may vary depending on temperature of materials.



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Try to pour a thin stream of investment into the flask to reduce bubbles.



Place flask under vacuum. For Doc Robinsons, hold for 30 seconds. For Plasticast, hold for 1.5 minutes.



Bouncing the spring loaded table can help pop the bubbles that form at the surface.



Gently bounce the table.



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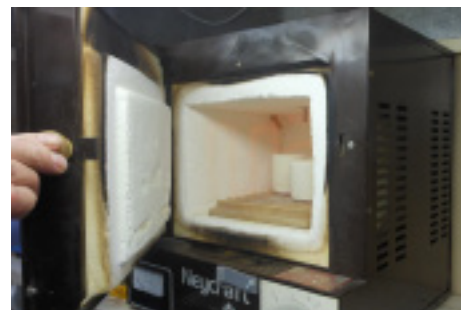
Bench set 1 hour for Doc Robinsons and at least 3 to 4 hours for Plasticast.



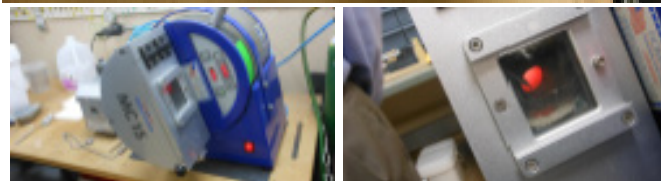
Burn Out Schedule

For Plasticast gold or silver castings, put flask in cold oven and ramp to 300 °F. in one hour. Increase temp to 350 °F. at a ramp rate of 100 °F. per hour and hold for 30 minutes. Increase to 1350 °F. at a ramp rate of 210 °F. In and hold for 3 hours. Decrease temp to 900 °F. (or preferred casting temp) and hold for 1 hour minimum. The use of a metal flask will stop cracks and fins.

For Doc Robinsons put flask in cold oven and ramp to 300 °F. in one hour. Increase temp to 350 °F. at a ramp rate of 100 °F. and hold for 30 minutes. Increase to 1350 °F. at a ramp rate of 210 °F. In and hold for 3 hours. Increase to 1500 °F and hold for 1 hour. . Decrease temp to 900 °F. (or preferred casting temp) and hold for 1 hour minimum.



Cast per alloy recommendations.



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Bench rest until the red glow leaves the button.



Plasitcast will come out very clean after quenching. We strongly recommend using a metal flask to reduce investment cracking.



Doc Robinsons will have a pink/salmon color on the inside and a white color on the outside after de-vesting.



Silver in Plasticast

White gold in Doc Robinsons

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