

# Ultravest Troubleshooting Guide

## Situation

## Solution

<p>1 Setting time too rapid</p>	<p>A Temperature of powder or liquid too high.                      B Insufficient liquid for powder used.                      C Mixing time too long.( 60 Sec Suggested)</p>
<p>2 Mixed investment too viscous (runny)</p>	<p>A Too much liquid in mix ( use 25ml/100g or 22.5ml/90g or 15ml/60g ).                      B Too little powder, check scale if using bulk or check bag weights if using pre-weighed.                      C Check pre-weighed bags for proper seal, unsealed or improperly sealed bags may allow moisture to enter product.</p>
<p>3 Bubbles on surface of casted pieces.</p>	<p>A Check for problems with vacuum portion of mixer.                      B Be sure excess debubblizer has been removed prior to introduction of investment.                      C Check type of wax being used, wax substitutes containing ash or plastic may cause a chemical reaction with investments.                      D Check to see if alloy was possibly overheated during melting cycle, burned metal will allow alloy components to disperse and gather contaminants together</p>
<p>4 Incomplete casting ( missing parts)</p>	<p>A This is not a result of investment deficiencies.                      B Check venting technique or spruing (metal flow).</p>
<p>5 Tight Fitting cases</p> <p>Note: Mixing longer (up to 90 seconds) or extending the bench time on fast method to 18 minutes or utilizing cold liquid/water will extend expansion slightly.</p> <p>Alloys containing Nickel or Beryllium tend to exhibit tighter fits.</p>	<p>A Expansion liquid level too low. Increase in increments of 5%.                      B Incorrect pre-heating temperature used during rapid burnout method, We recommend 850°C ( or 1562°F ). Final temperature may be adjusted after a hold time of 15 minutes at 850°C.                      C Check type of wax being used, wax substitutes containing ash or plastic may cause a chemical reaction with investments.                      D Final oven temperature too high or duration at final temperature too long.                      E Check to be sure temperature staging has not been used for conventional burnout methods.                      F Temperature raised too quickly using conventional burnout method. Temperature should be raised at a rate not to exceed 7°C ( 12.6°F ) per minute.                      G If using a metal ring with liners, be sure the liners are not presoaked prior to pouring the investment.</p>
<p>6 Rough surface on casted pieces.</p>	<p>A Final oven temperature too high or duration at final temperature too long.                      B Reaction between investment and tension release agent.</p>

# Ultravest Troubleshooting Guide

## Situation

## Solution

7 Investment cracks using fast burnout

- A Check time between mixing and placing ring (s) into the furnace. We recommend 15 minutes.
- B Temperature set too high on furnace. We recommend 850°C ( 1562°F ).
- C Investment ring may be in contact with furnace floor causing a direct heat transfer. Place ring on a grooved tray to allow indirect heat transfer.
- D If the oven used has a convection system, we recommend that the convection fan be turned off for the first 15 minutes of the burnout.
- E Check type of wax being used, wax substitutes containing ash or plastic may cause a chemical reaction with investments.
- F Ring may contain too many waxed pieces or the total wax content may be too great. The wax will expand before the investment material, therefore if the mass of the wax is too great it's expansion may crack the investment in rare occasions.

8 "Fins" appear on the casted pieces.

- A Check type of wax being used, wax substitutes containing ash or plastic may cause a chemical reaction with investments.
- B Temperature raised too quickly using conventional burnout method. Temperature should be raised at a rate not to exceed 7°C ( 12.6°F ) per minute.
- C Check the drying (bench set) time when using a conventional burnout. We recommend a minimum of 60 minutes before placing into the cold furnace.