

# Tilite® Troubleshooting Guide

## Before you start - please check the following:

1. Recommended torch - Talladium Casting Torch, or a torch that has a multi-orifice tip that will melt 2-3 base alloy ingots in 12-14 seconds.
  - a. Oxygen setting at 35-40 psi
  - b. If propane is used, the setting should be less than 2 psi.
2. Use a separate slotted crucible for each type of alloy do not intermix.
3. Carefully read and follow all instructions on the Talladium Tilite instruction sheet

## Bond failure:

1. Overheated the alloy during melt.
2. Used too much propane when melting.
3. Used rubber wheel on surface.
4. Did not prepare the porcelain-bearing surface with the correct stones or aluminum oxide. Talladium recommends using the Wear-Ever discs, T-2 Diamond and Brazilian Reddish Brown Aluminum Oxide for the metal finishing.
5. Using something other than distilled water in Ultra Sonic to clean before degassing.
6. Steam cleaned instead of using the Ultra Sonic to clean before degassing.
7. Degassing temperature too high.
8. First opaque temperature too low.
9. Oven not purged between use of high silver alloys.
10. The aluminum oxide was contaminated.

## Gassing (bubbling):

1. Metal overheated.
2. Torch settings are not correct. Propane setting too high.
3. Not using the Brazilian Reddish Brown Aluminum Oxide.
4. Flux in soldered area not ground off with a porcelain-grinding instrument after soldering.
5. Plastics used for patterns, sprues or runner bars were not completely burned out before casting alloy.
6. Using too high of a vacuum on firing porcelain. Use 28 psi. or 680 mm only.
7. Incorrect opaque and porcelain procedures. Insure thorough drying of the opaque before increasing firing temperature. Also thorough condensation and drying of the body porcelain before increasing firing temperature.

## Discoloration:

1. If semi-precious alloys containing silver has been fired in the porcelain oven, then discoloration may occur. The oven must be thoroughly cleaned by purging before attempting to degas or fire porcelain on the Talladium Tilite® Alloys.

## Checking:

1. Porcelain and metal expansion not balanced.
2. Over-condensing the porcelain.
3. Porcelain not pre-dried adequately.
4. Porcelain placed into muffle too quickly.
5. High temperature held too long.
6. Over-fired porcelain.

7. Running porcelain bake too fast.
8. Cooling too rapidly.

**Suck Backs:**

1. Sprues used were too small of a gauge.
2. Sprues cool before the pontic or unit.
3. Button was too small because of insufficient amount of alloy was melted.

**Solder failure:**

1. The metal that is to be soldered has not been sufficiently heated. The metal itself must reach the flow temperature of the solder before the pre-solder is applied. Look for a bright orange-red hue in the metal, orange is too cool. Remember the heat from the metal joint melts the solder not the torch.
2. Solder was overheated and became crystallize.
3. Joint was sandblasted before soldering. Never sandblast before soldering, prepare the joint with a diamond like the T-2 Diamond. Do not use a sintered diamond it will contaminate the alloy.
4. Joint areas not fluxed correctly.
5. Insufficient joint space for solder to flow. Leave a space that is the same thickness of two business cards.
6. Porcelain firing rate too rapid.