TALLADIUM

INVESTMENT INSTRUCTIONS

Efficiency
Talladium pioneered the “fast-burnout”; wax to metal in 30 minutes.
Quick and easy divesting.

Reliability
Precise expansion for a plug-in fit every time.

Consistency
Each batch goes through 28 quality control checks to insure a perfect fit every time.

Superior Quality
Ceramic fillers provide ultra-smooth castings and pressings.

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INVESTMENT DILUTION CHART

	1700		G2	
	60gm	90gm	60gm	100gm
Total Volume of Solution	15.0 cc	23.0 cc	14.0 cc	23.0 cc
Tilite and Non-Precious Alloys	12.0 cc liquid 3.0 cc water	18.0 cc liquid 5.0 cc water	12.0 cc liquid 2.0 cc water	20.0 cc liquid 3.0 cc water
C&B and Ceramic Alloys	9.5 cc liquid 5.5 cc water	15.0 cc liquid 8.0 cc water	10.0 cc liquid 4.0 cc water	16.0 cc liquid 7.0 cc water
Pressable Crowns, Veneers & MOD			9.0 cc liquid 5.0 cc water	15.0 cc liquid 8.0 cc water
Pressable Inlays (MO, DO)			6.5 cc liquid 7.5 cc water	11.0 cc liquid 12.0 cc water
Printed Resin Partial			10.0 cc liquid 4.0 cc water	16.0 cc liquid 7.0 cc water

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Customize the Fit: For a looser fit use less water and more liquid. For a tighter fit use more water and less liquid. Always keep the total volume of solution the same.

Laboratory Temperature Considerations: Store liquid and powder at room temperature 72-75°F / 22-23°C. The hotter the room the faster the investment sets. In the hot summer months, store the liquid in the refrigerator to provide more working time when pouring multiple rings. Make sure you have enough liquid during the cold winter months as Talladium's investment liquid may not be freeze stable below 32°F / 0°C.

Die Preparation: Block out all undercuts. Spray the wax pattern with Pattern Prep Debubblizer to dissolve the die lubricant and breakup the wax surface tension. Use a soft synthetic brush to lightly scrub the wax pattern. Before investing, rinse debubblizer completely off with room temperature water.

Measure the Investment Liquid: Always keep investment bowl filled 1/3 with water. Prior to use, pour out the water and swab the inside with a dry towel. Use the 20cc monoject syringe for an accurate and consistent measurement. Refer to the chart above for exact dilutions.

Vacuum Mix: Introduce powder into liquid and hand spatulate for approximately 15 seconds. Vacuum invest for 60 seconds at low speed. Place bowl on vibrator and break vacuum slowly. If your machine does not have a slow release valve, turn machine off and slowly let air go through hose into bowl.

Fill the Rings: Use Talladium's Ringless System for proper setting expansion. When using a metal ring, use a ⅛" thick ceramic ring liner for proper setting and thermal expansion. Use the low to medium vibration to fill the rings. No more than a ¼" over the wax pattern except for pressables that require the ring to be full.

Bench Set: 15 minutes at 72°F / 22°C. Higher room temperatures will increase bench set time. To achieve ample working time when investing multiple rings during extreme summer temperatures, store liquids and/or powder in the refrigerator. Lower room temperatures will decrease bench set time. To achieve a 15-minute bench set at cooler temperature, the ring(s) can be placed on a warming tray at low heat or under a heat lamp.

Burnout

Rapid Burnout: Rings with all wax (no plastic or resin infused waxes) may be placed in oven at highest burnout temperature. Heat soak 15 seconds per gram (.25 minutes x 150 grams = 37.5 minutes) plus 10 minutes for each additional ring. If ring was left out overnight, rehydrate 2 minutes in water. The ring can now be placed in a hot oven.

Conventional 2-Stage Burnout: When using plastic sprues, resin infused waxes, runner-bars or implant components, do not use a rapid burnout. Place ring in a cold oven and raise to 800°F in one hour. Heat soak 60 - 100gm rings for 1 hour at 800°F / 427°C, then raise to high temperature and cast. When placing ring(s) in the oven for an overnight burnout soak them in water for 2 minutes prior to entry.

Burnout for Inlay and Crown and Bridge Alloys: For optimal results, burnout at 1550°F / 843°C, then drop down to recommended burnout temperature. Hold for 15 seconds per gram plus 10 minutes for each additional ring to allow for the center of the ring to cool to the proper temperature before casting. This allows the ceramic material to vitrify and produce a smoother casting.

Burnout of Pressable Rings: Heat soak 30 minutes for 100 gram rings and 1 hour for 200 gram rings.

Long Span Bridges: When investing long span bridges, avoid over expansion of the investment as this could lead to over expansion of the connectors, resulting in cutting and soldering of the bridge.
See FAQ #6.

Frequently Asked Questions (FAQs)

1. Why am I experiencing blown molds?

- The ring was filled more than ¼" over the wax pattern trapping steam inside the mold.
- The lab is too hot causing the investment to setup too fast which weakens the binders.
- Trimming/scraping the top of the mold forces ceramic material into the microscopic pours which seals the top preventing steam to escape.
- Ringless ring former is too stiff or too old and is not allowing the investment to expand properly.

2. Why am I experiencing cracked molds?

- The mold dried out overnight and was not rehydrated in water for 2 minutes. If the mold was not rehy drated, the wax will be absorbed through the walls of the investment causing a weakness point in the mold.

3. Why am I getting tight fits?

- Check for undercuts. Use the perfect plane of a sharp pencil. Roll it around the prep to catch all undercuts.
- Try using one or two cc's more expansion liquid to compensate while keeping the total volume the same.

4. Why am I experiencing inconsistent fits?

- You are using a graduated cylinder which occasionally leaves behind ½ cc of liquid. Use the Monoject syringe.
- Your investment bowl was completely dry prior to adding liquid. A dry bowl will soak up one to two cc's of liquid.

5. Why am I getting so many bubbles?

- Not a complete vacuum pull.
- You did not wet the rim of the bowl prior to placing the lid.
- There are chips in the lip of the bowl.
- You pulled the hose off your vacuum investing machine at full vacuum which pushes the air back into the bowl and bubbles into the mix.

6. The individual copings fit on my long-span bridges but the bridge as a whole doesn't.

- Mix the investment with the recommended dilution. Vacuum invest as usual. Vibrate investment into all the copings with a metal instrument or synthetic brush. Set the bridge aside. Use a syringe to measure and add recommended cc's of additional distilled water to the remaining investment in the mixing bowl. Hand spatulate mix to incorporate the distilled water. Pour the investment into the ring without vibration.

*Additional distilled water for ring mix / investment ratios:
1cc / 60gm
1.5cc / 90gm
2cc / 100gm