

Talladium's Family of Investments

GALAXY Universal Investment

Batch # _____ Expiration Date: _____

1700 Casting Investment

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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

Every batch is CDT approved
28 quality control checks insure a perfect fit

Superior Quality

Envelopes are flushed with nitrogen for ultimate freshness
Ceramic fillers provide ultra smooth castings and pressings

Versatility

Use small to large rings with confidence
The additional expansion you need for difficult alloys
Can be used with any metal on the market
Fits can be customized



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Suggested Dilutions				
Alloy / Application	1700		Galaxy	
	60gm	90gm	60gm	100gm
Total Volume of Solution	14.5 cc	22.0 cc	15.0 cc	25.0 cc
Tilite® or N/P	10.5 cc liquid 4.0 cc water	16.0 cc liquid 6.0 cc water	12.0 cc liquid 3.0 cc water	20.0 cc liquid 5.0 cc water
Noble or High Noble	7.0 cc liquid 7.5 cc water	11.0 cc liquid 11.0 cc water	9.5 cc liquid 5.5 cc water	16.0 cc liquid 9.0 cc water
Inlay and C & B Type Gold	7.0 cc liquid 7.5 cc water	11.0 cc liquid 11.0 cc water	9.5 cc liquid 5.5 cc water	16.0 cc liquid 9.0 cc water
Pressable Crs. and Veneers			9.0 cc liquid 6.0 cc water	15.0 cc liquid 10.0 cc water
Pressable Inlays MO, DO			6.5 cc liquid 8.5 cc water	11.0 cc liquid 14.0 cc water
Pressable Inlays MOD's			9.0 cc liquid 6.0 cc water	15.0 cc liquid 10.0 cc water

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. When pouring multiple rings in the hot summer months, storing the liquid in the refrigerator will provide more working time. Plan ahead for cold winter months as Talladium's investment liquid may not be stable below 32°F / 0°C.

Die Preparation - Blockout 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. Rinse debubblizer completely off with room temperature water before investing.

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 accurate and consistent measurement of distilled water and investment liquid. 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 no “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 1/8” thick ceramic ring liner like the Talladium Ceramic Ring Liner for proper setting and thermal expansion. Use 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 accelerate 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 up to 20 minutes. To achieve the 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 if necessary.

Burnout

Rapid Burnout - Rings with all wax (no plastic) may be placed in oven at highest burnout temperature. Heat-soak 15 seconds per gram (i.e. for a 150 gm ring, .25 minutes x 150 grams = 37.5 minutes) plus 10 minutes for each additional ring. If ring was left out overnight, re-hydrate 2-3 minutes in water. The ring can now be placed in a hot oven.

Conventional 2-stage Burnout - Rings can also be placed in a cold oven and burned out. When using plastic sprues, runner-bars or implant components, do not use a rapid burnout. Heat soak ring with 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 prior to entry in water for 2-3 minutes.

Burnout for Inlay and Crown and Bridge Alloys - For optimal results, burn-out at 1550° F / 843°C first, 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 materials 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 solder of the bridge. See back side of bulletin Q & A #6.

Frequently Asked Questions

1. Q. Why did my ring crack during pressing?
 - Too much pressure on the compressor. Talladium does not recommend going over 65 psi (4.5 bar) on the compressor.
 - Raise hold temperature 50°F (10°C) on the pressing cycle to soften the ingot.
2. Q. Why am I experiencing blown molds?
 - The ring was filled more than 1/4 " over the wax pattern, trapping steam inside the mold.
 - The lab is too hot causing the investment to setup too fast, thus weakening the binders.
 - Trimming/Scraping the top of the mold forces ceramic material into the microscopic pours, thus sealing the top.
 - Ringless ring former is too stiff or too old and is not allowing the investment to expand properly.
3. Q. Why am I experiencing cracked molds?
 - The mold dried out overnight and was not re-hydrated, thus wax was absorbed through the wall creating an implosion.
4. Q. 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. Keep the total volume the same.
5. Q. Why am I experiencing inconsistent fits?
 - You are using a graduated cylinder (not the recommended Monoject syringe) to measure liquids. At least 1cc of liquid remains in a graduated cylinder.
 - Your investment bowl was allowed to dry out. A dry bowl will soak up one to two cc's of liquid.
6. Q. 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 snapped the hose off your vacuum investing machine without a slow release valve, slamming air back into the bowl and bubbles into the mix.
7. Q. How can I get my long-span bridges to seat (when the individual coping seats perfectly) without cutting and soldering?
Mix the investment with the recommended dilution (ratios may be adjusted if necessary). Vacuum invest as usual. Vibrate investment into all the copings only 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