

## Kerr Casting Investments

Kerr's Investment products offer application specific formulations utilizing only the highest quality raw materials, to deliver a superior level of strength and accuracy. Decades of research and quality control has produced materials that deliver consistent results to meet the demands of today's changing industry. Kerr's renowned product, Satin Cast, is recognized by the world's finest jewelers as the investment that creates the finest results. KerrCast 2000 is a dependable investment that delivers consistent quality castings every time.



**Satin Cast 20** is recognized by the global jewelry casting industry as the benchmark for casting the highest quality gold and silver.

### Satin Cast 20

07960 45kg Drum  
31009 15 kg Carton



**KerrCast 2000** is a very forgiving and dependable jewelry investment for all of your gold, silver and brass casting needs.

### KerrCast 2000

27746 45kg Drum  
35361 15 kg Carton

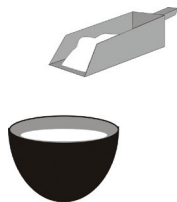
## Investment Mixing Instructions



1. Weigh investment.



2. Measure water.



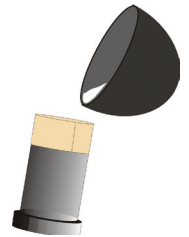
3. Add investment to water.



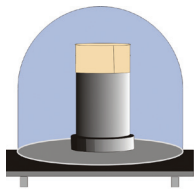
4. Mix 3 to 3-1/2 minutes.



5. Vacuum 20 seconds after boil.



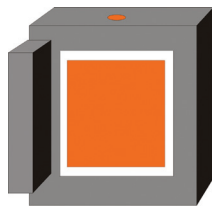
6. Pour into flask.



7. Vacuum up to 90 seconds.



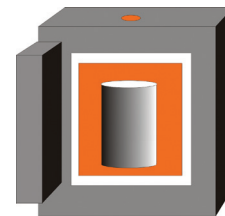
8. Let flasks sit still for 2 hours.



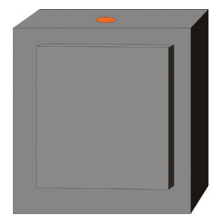
9. Preheat furnace 300°F / 149°C. (for multiple flasks do not preheat)



10. Remove sprue base.



11. Load into furnace.



12. Follow appropriate burnout cycle.

## Investment Recommended Water / Powder Ratios



To determine the number of pounds of investment needed to fill any particular flask, divide the cubic inch content of the flask by 20. (1 lb = 454 grams).

To determine flask content in cubic inches:

**Round Flask:**  
0.7854 x dia. <sup>2</sup> x height

**Square Flask:**  
width x length x height

**Heavy Castings**  
Heavy Ladies Rings,  
Men's Rings & School Rings  
**38 ml water to 100 g powder**

**Regular Castings**  
Ladies Rings, Pendants,  
Filigree & Intricate Wax Patterns  
**40 ml water to 100 g powder**

Weight / lbs.	grams		Water av. oz.	ml	Yields cubic inch	Yields cubic cent.		Water av. oz.	ml	Yields cubic inch	Yields cubic cent.
1/2	227		3.0	86	10.5	174		3.2	91	11	179
1	454		6.1	172	21	349		6.4	182	22	359
5	2268		31	862	107	1745		32	908	110	1794
10	4535		61	1724	213	3490		64	1816	219	3589
15	6803		92	2586	320	5235		96	2724	329	5383
20	9070		122	3448	426	6980		128	3632	438	7178
25	11338		153	4310	533	8725		160	4540	548	8972

## Investment Powder & Water Requirements for Flask Sizes

Top Figure - Investment Powder (oz), Bottom Figure - Water (ml)

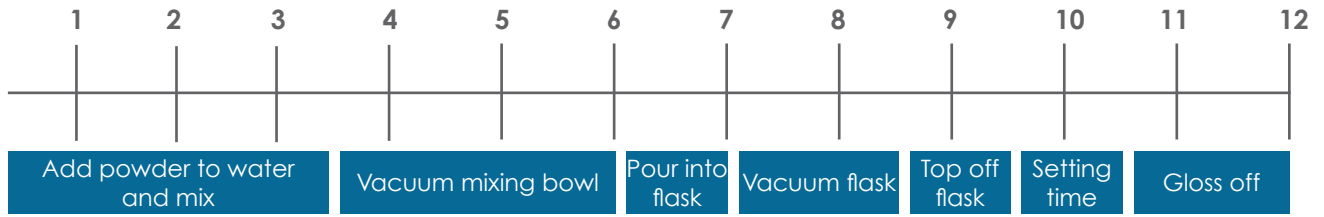
**Regular Castings**  
Ladies Rings, Pendants,  
Filigree & Intricate Wax Patterns  
**40 ml water to 100 g powder**

**Heavy Castings**  
Heavy Ladies Rings,  
Men's Rings & School Rings  
**38 ml water to 100 g powder**

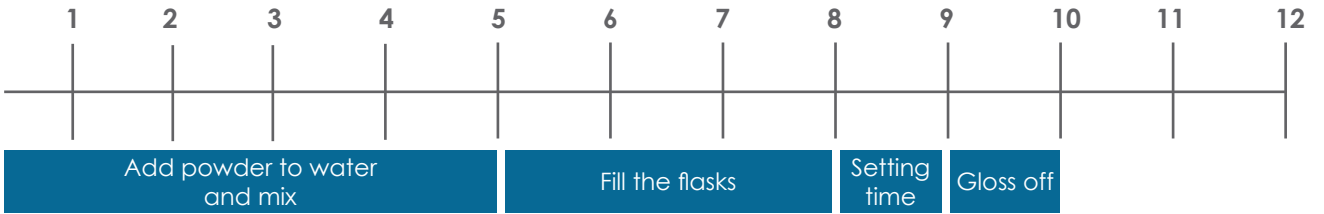
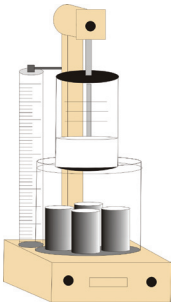
Flask Diameter	Height 2"	2.5"	3"	3.5"	4"	5"	6"		2"	2.5"	3"	3.5"	4"	5"	6"
2"	5 oz 57 ml	6 oz 68 ml	7.5 oz 85 ml	9 oz 102 ml	10 oz 114 ml				5 oz 53.9 ml	6 oz 64.6 ml	7.5 oz 80.8 ml	9 oz 97 ml	10 oz 107.8 ml		
2.5"	8 oz 91 ml	10 oz 114 ml	12 oz 136 ml	14 oz 160 ml	16 oz 183 ml	20 oz 228 ml			8 oz 86.2 ml	10 oz 107.8 ml	12 oz 129 ml	14 oz 150.9 ml	16 oz 172.5 ml	20 oz 215.6 ml	
3"	12 oz 136 ml	15 oz 170 ml	18 oz 205 ml	21 oz 240 ml	1.5 lb 274 ml	30 oz 340 ml	32 oz 410 ml		12 oz 129.3 ml	15 oz 161.7 ml	18 oz 194 ml	21 oz 226.4ml	1.5 lb 258 ml	30 oz 323 ml	32 oz 345 ml
3.5"	1 lb 182 ml	1.25 lb 228 ml	1.5 lb 274 ml	1.75 lb 320 ml	2 lb 364 ml	2.5 lb 456 ml	3 lb 548 ml		1 lb 172 ml	1.25 lb 215 ml	1.5 lb 258 ml	1.75 lb 301 ml	2 lb 344 ml	2.5 lb 430 ml	3 lb 516 ml
4"	18 oz 205 ml	23 oz 262 ml	27 oz 308 ml	2 lb 364 ml	2.25 lb 410 ml	3 lb 546 ml	3.5 lb 637 ml		18 oz 194 ml	23 oz 247.9 ml	27 oz 291 ml	2 lb 344 ml	2.25 lb 387 ml	3 lb 516 ml	3.5 lb 602 ml
5"					3.75 lb 682 ml	4.75 lb 864 ml	5.5 lb 1000 ml						3.75 lb 645 ml	4.75 lb 817 ml	5.5 lb 946 ml

## Recommended Work Time - In Minutes

### Conventional Mixing



### Vacuum Mixing



**Work Time:** Work time is the time that has elapsed between adding the powder to the water, and when the investment thickens.

**Water Temperature:** Water should be 70°F / 21°C to 75°F / 24°C. Colder water extends work time, warmer water shortens work time.

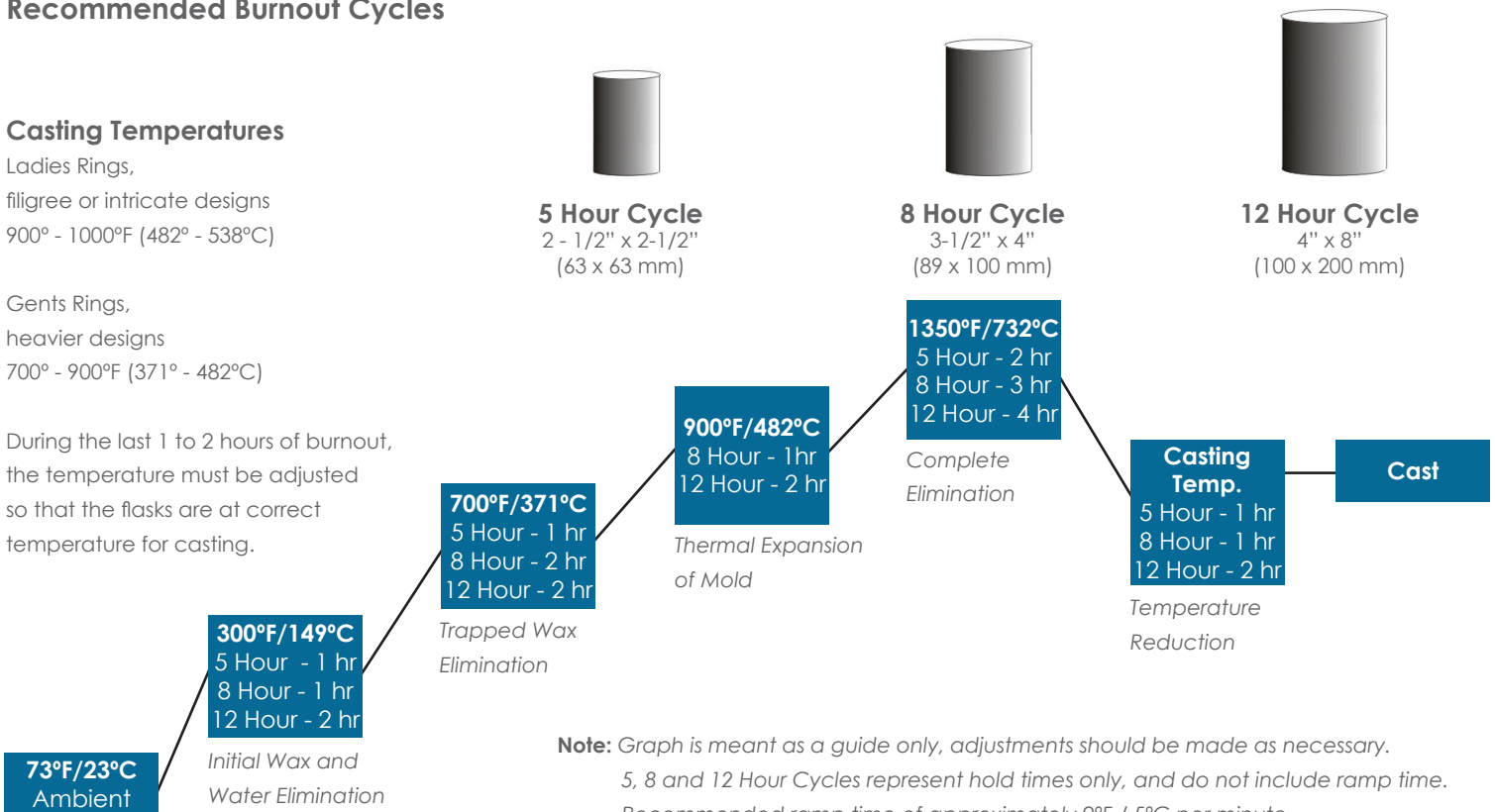
## Recommended Burnout Cycles

### Casting Temperatures

Ladies Rings,  
filigree or intricate designs  
900° - 1000°F (482° - 538°C)

Gents Rings,  
heavier designs  
700° - 900°F (371° - 482°C)

During the last 1 to 2 hours of burnout,  
the temperature must be adjusted  
so that the flasks are at correct  
temperature for casting.



## Investment Troubleshooting

Condition	Causes / Corrections
<b>"Fins" or flash on casting</b> (added thin metal extensions)	Incorrect water/powder ratio causing weak investment mold, investment improperly stored, investment extended past work time, flasks disturbed too soon, flasks heated too rapidly
<b>"Non-fills"</b> (incomplete castings)	Pattern improperly sprued (too thin or too few), incomplete wax burnout, mold too cool when cast, metal too cool when cast, insufficient metal by weight
<b>Porous castings</b> (fine cavities in metal)	Pattern improperly sprued, incomplete wax burnout, metal overheated, mold too hot, too much "old" metal (never use more than 50%), metal insufficiently fluxed, too much flux added to metal
<b>Foreign particle inclusions</b>	Sharp corners and bends in sprue system, flask placed in furnace too soon, flask heated too fast
<b>Spauling</b> (portion of investment in mold)	Sharp corners and bends in sprue system, flask placed in furnace too soon, flask heated too fast, investment handled past work time
<b>Bubbles / Nodules</b>	Wax patterns not painted with wetting agent, slurry not sufficiently mixed, vacuum in need of pump oil
<b>Rough Surface</b>	Roughness on wax pattern, pattern improperly sprued, incorrect water/powder ratio
<b>Watermarks</b> (grainy surface)	Investing too rapidly, incorrect water/powder ratio, investment handled past work time



KerrCast 2000™

Satin Cast 20™

Satin Cast Diamante™

Satin Cast Xtreme™

Supervest 20™

Platinite™

G-400™

### Casting Investment Application Chart

Product	Application
KerrCast 2000	Gold and silver.
Satin Cast 20	Highest quality gold and silver.
Satin Cast Diamante	Highest quality stone in place.
Satin Cast Xtreme	Highest quality white gold.
Supervest 20	Gold and silver, large items.
Platinite	Platinum and stainless steel.
G-400	Aluminum.

### Ordering

07960 Satin Cast 20, 45 kg
31009 Satin Cast 20, 15 kg
31723 Satin Cast 20, 2 kg (6pk)
31312 Satin Cast Diamante, 45 kg
25219 Satin Cast Xtreme, 45 kg
27746 KerrCast 2000, 45 kg
35361 KerrCast 2000, 15 kg
14169 Supervest 20, 45 kg
27778 Platinite, 36 kg
20743 G-400, 45 kg