

SC-D INVESTMENT



SC-D investment is based on the SC20 formula, with proven pre-mixed additives that protect stones from heat.

- Ideal thermal expansion for wax setting in diamonds, colorstones, colored synthetics and cubic zirconia
- Recommended mixing ratio: 38-40 mL water to 100g powder

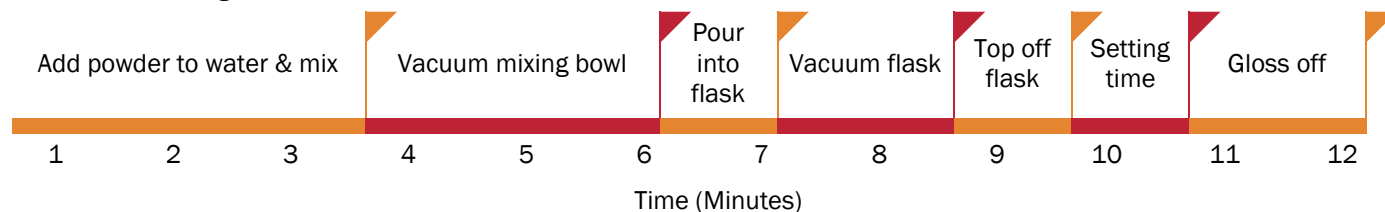
SC-D investment is used to form lost-wax molds for the casting of jewelry and fine art pieces with gold, silver and other metal alloys. SC-D investment is composed primarily of powdered silica (quartz), cristobalite (a form of quartz) and a gypsum (calcium sulfate) binder. Water is mixed on-site by user prior to use to form the mold.

Mixing Instructions

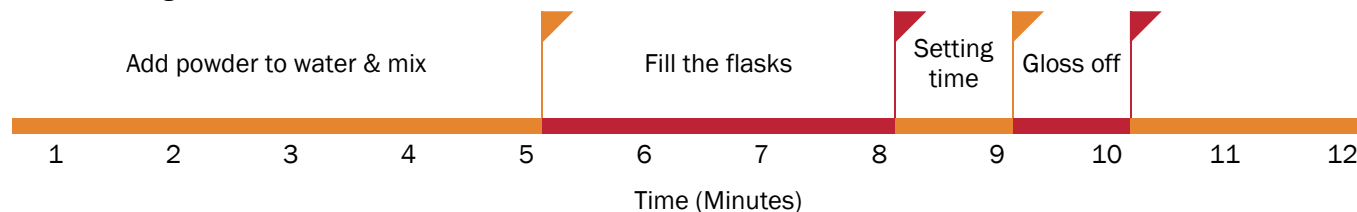
1. Weigh investment.
2. Measure water.
3. Add investment to water.
4. Mix 3-3.5 minutes.
5. Vacuum 20 seconds after boil.
6. Pour into flask.
7. Vacuum up to 90 seconds.
8. Let flask sit still for 2 hours.
9. Preheat furnace 300°F (149°C). **Note:** do not preheat for multiple flasks.
10. Remove sprue base.
11. Load into furnace.
12. Follow appropriate burnout cycle.

Recommended Working Time

Conventional Mixing



Vacuum Mixing



Work time: elapsed time between adding powder to the water and thickening of investment.

Water temperature: water should be 70-75°F (21-24°C). Colder water = extends work time; Warmer water = shortens work time.

Water quality: deionized (DI) or distilled.



RANSOM & RANDOLPH

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Stone-in-Place Typical 8 Hour Burnout Cycle

Type of Stone	Maximum Temperature
Diamond	1050° F (566° C)
Gemstones	1100° F (593° C)
Cubic Zirconia	1350° F (732° C)
Note: Most conventional burnout procedures may be applied, with the exception of paying special attention to	

Hold Time

Cycle Length	Temperature
2 Hour	300° F (149° C)
2 Hour	700° F (371° C)
3 Hour	Maximum Temperature
1 Hour	Casting Temperature

Stone in Place Process

Stones recommended: diamond, sapphire, ruby, cubic zirconia and synthetic stones.

Investment Removal

Never quench — the sudden temperature shock normally results in cracking of the stones. Allow flask to sit at room temperature for at least two hours, at which time the tree can be loosened from the flask by tapping with a rubber mallet. When cool enough, soak the tree in an investment removal solution.

Typical Material Properties*

Silica (SiO ₂) (Quartz & Cristobalite)	Calcium Sulfate (Gypsum)
60-80%	20-40%

*These results are based on the testing methods, frequency and procedures of Ransom & Randolph or its approved suppliers. The levels referenced herein are only for general guidance and do not constitute a firm specification.

North America: Danger. Contains crystalline silica. May cause cancer by inhalation. Causes damage to lungs through prolonged or repeated exposure by inhalation. See SDS for more information.

EU: Danger. Contains respirable crystalline silica. Causes damage to lungs through prolonged or repeated exposure. See SDS for more information.

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