JPL
JEWELRY PLASTER

STONECAST
INVESTMENT POWDER

JPL STONECAST INVESTMENT POWDER FOR DIAMOND STONE IN PLACE WAX SETTING. STONECAST HAS BEEN SPECIALLY FORMULATED TO PROTECT PRECIOUS STONES SUCH AS DIAMONDS, WHEN THEY ARE SET INTO THE WAX PATTERNS, BURNED OUT AND CAST, TO ENSURE NO DAMAGE TO THE STONES DURING THE BURNOUT CYCLE. THE MAXIMUM TEMPERATURE ACHIEVED DURING THE BURNOUT CYCLE MUST NOT EXCEED 630°C.

Stonecast holds the stones in place during the dewax period, and protects them from the heat during the remainder of the burnout process, and from the molten metal when cast. Stonecast will produce high definition, clean surface castings, with stones that remain as clear as they were before burnout.

Extensive permeability testing and development has taken place to ensure maximum carbon is released from the mould during burnout. It is formulated with the special additives to enhance stone-in-place casting results and improve cleanoff. Stonecast will cast all alloys melting below 1350°C.

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STONECAST

INVESTING

Target is to use deionised water between 23°C - 25°C together with powder at the same temperature to achieve a slurry temperature around 24°C - 26°C. This will allow the powder to give consistent gel and gloss off times to maximise the correct setting time of the powder.
It's important that a flask is left undisturbed after investing for 90 minutes before removing the rubber base and inserting into the furnace to start the burnout cycle. This will allow the flask to gain its full green strength in preparation for the burnout cycle.

BURNOUT CYCLE

1. Steam Dewaxing / Dry Dewaxing

JPL investment powder products can be steam or dry dewaxed in a furnace with excellent results. Wax will melt in the range of 65°C - 75°C and will flow out of the flask. It is recommended to hold the flask at 230°C to drive out all the wax and free moisture out of the flask. This will take approximately 3 hours.

2. Top Temperature

At the top temperature at 630°C all the residual carbon from the wax is converted into carbon dioxide gas which easily leaves the flask leaving a uncontaminated mould for the metal to be cast into.

3. Casting Temperature

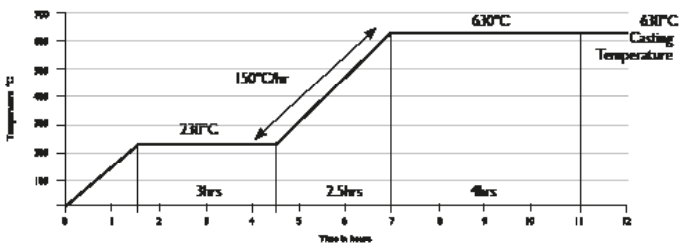
The casting temperature varies considerable depending on the size of wax piece and type of metal to be cast. Please contact JPL for our recommendations if casting defects are found as an adjustment to the flask casting temperature or metal temperature can solve most casting defects.

SLURRY TEMPERATURE 21°C

NEVER INCREASE THE FURNACE TEMPERATURE ABOVE 630°C

DO NO NOT CAST WITH A FLASK TEMPERATURE LOWER THAN °C

LEAVE FOR 90 MIN TO STAND BEFORE BURNOUT



HAND MIX THEN VACUUM	Min.
Weigh out water and powder	0
Add powder to water	0
Mix by hand	1
Mix with machine	3
Vacuum mixer bowl	1
Pour flasks	1
Vacuum flasks	2
Total time taken	8

MACHINE VACUUM MIXING	Min.
Weigh out water and powder	0
Add powder to water	0
Mix under vacuum	4
Pour flasks	2
Vacuum flasks	2
Total time take	8

POWDER/ WATER RATIO	100/38
WORKING TIME @ 25°C SLURRY TEMP.	8-10 min.
GLOSS OFF TIME @ 25°C SLURRY TEMP.	12-14 min.
THERMAL EXPANSION AT 750°C	0.90%
SETTING EXPANSION AFTER 2 HOURS	1.10%
VOLUME YIELD PER KG. OF POWDER	760 ml.

JPL STONECAST IS AVAILABLE IN:

- 22.5 KG Sack
- 45 KG Fibre Drum