WORLD LEADER IN

INVESTMENT POWDER - MOULDING RUBBER - INJECTION WAX

GOLD STAR POWDERS

SRS

JPL JEWELRY PLASTER

HUNTER

HYDRACAST INVESTMENT POWDER

SCM Jewels

Version III



INVESTMENT POWDERS

Brass / Silver / Gold
Stone in Place
Resin



INJECTION WAX

Economy
All Purpose
Premium



SILICONE RUBBER

Solid Silicone
Liquid Silicone

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Chengalpattu District, Tamil Nadu - 603110, India.
GST: 33AAICG2601A1ZG

GOODWIN REFRACTORY SERVICES INDIA PRIVATE LIMITED



THE COMPLETE SOLUTION FOR JEWELLERY CASTING



CERTIFIED ISO 9001:2015 COMPANY



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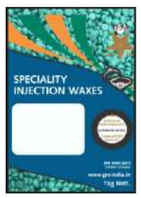
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INVESTMENT POWDER

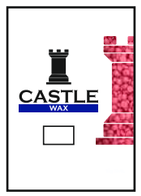
	BRASS	SILVER	LOW GOLD	MID GOLD	HIGH GOLD	STONE IN PLACE	RESIN CAST
GOLD STAR POWDERS	BRASSCAST	21	XXX	SONA 22	OMEGA	GEMSET	SYNERGY
SRS	BRASSCAST	ORIENTAL	EUROVEST	CLASSIC	SILK	STONECAST	CADCAST
JPL JEWELRY PLASTER	BRASSCAST	SILVERCAST	SILVERCAST		DIAMOND		
	HUNTER HK - BRASS	HUNTER HK - SILVER	HUNTER HK - GOLD		HUNTER HK - GOLD	HUNTER HK - STONE CAST	HUNTER HK - RESIN CAST
GRS	OTTONE	ARGENTO	MAXIMUS		MAXIMUS	STONESET	PROTECAST
HYDRACAST INVESTMENT POWDER	FOR BRASS	FOR SILVER	FOR GOLD				
SCM Jewels	BRASSCAST	SILVERCAST	GOLDCAST		GOLDCAST		
Version III	Version III		GOLD Version III				



INJECTION WAX













info@grs-india.in +91 44 4743 9999 www.grs-india.in

GOODWIN REFRACTORY SERVICES INDIA PRIVATE LIMITED

Goodwin Refractory Services(GRS), India was started in India in the year 2001 to cater for the Jewellery Industry of South Asian markets such as India, Srilanka & Bangladesh. Goldstar powders initially started at Perungudi in 2001 has moved to their new purpose-built ultra-modern manufacturing facility at Kalavakkam in 2013.

GRS-India was owned by Goodwin PLC-UK. who are pioneer in this business and has similar factories across the globe.

GRS-India manufactures Jewellery Investment Powders, Industrial Investment Powders, Mould Plasters and Waxes. We trade and sell Mould Rubbers, Jewellery Machinery, and Consumables. With the above products, Goldstar India provides a complete solution for Jewellery casting.

GRS-India has got a state of art Laboratory for testing all of our manufactured and traded products under technical guidance from Goodwin Refractory Services-UK.



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GOLD STAR BRASSCAST

Gold Star BrassCast is an exceptionally competitive, plaster-bonded investment powder, specifically formulated by optimizing the particle-size distribution and thermal expansion to help casters to compete in the most demanding of environments.

The casting of brass for the costume jewellery market accounts for a large percentage of worldwide jewellery production, and is an area where costs must be minimized. BrassCast helps achieve this but at the same time produces castings with excellent surfaces, therefore reducing metal loss and keeping finishing work, prior to plating, to an absolute minimum.

Gold Star BrassCast can also, under strictly adhered to conditions, successfully cast silver, producing good quality castings with smooth surface finish.

The cost of BrassCast is at least 25% lower than a competitive, conventional investment powder, although it is less abuse-resistant than other Gold Star products.





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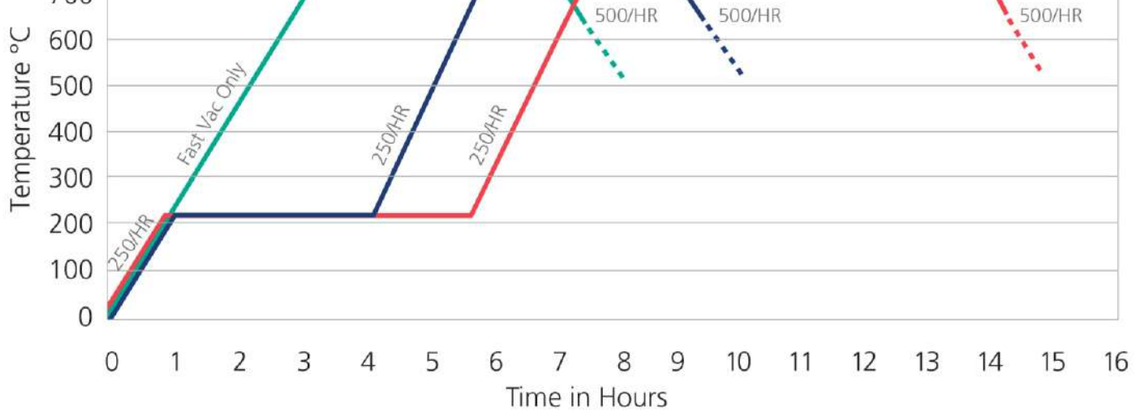
Do not remove flasks from furnace to cast until they have been held at casting temperature for a minimum of 1 hour. If held for less than 1 hour, the core of the flasks will be at a much higher temperature than the digital temperature display states, and may result in metal mould reaction.

- Do not cast with a flask temperature lower than 650°C
- Slurry temperature 21°C
- Leave for 90 min to stand before burnout cycle

WATER TO POWDER RATIO	
MACHINE VACUUM MIXING	38:100
HAND MIX THEN VACUUM	40:100

MACHINE VACUUM MIXING	Min.
Weigh out water and powder	0
Add powder to water	0
Mix under vacuum	1
Stop mixer and scrape blades	0.5
Mix under va cuum	3.5
Pour flasks	2
Vacuum flasks	1
Total time take	8

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



BrassCast is available in the following packages:

- 22.5 KG Sack

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GOLD STAR STARCAST

Gold Star Starcast is a Quality and Versatile Investment Powder used for many years by the Indian Costume Jewellery Industry. It has been developed for the most exacting requirements of High Quality Brass & Silver castings.

Gold Star Starcast is formulated to produce exact re-production of wax patterns with high level of surface finish.

Gold Star Starcast is competitively priced product withstands most punishing burnout cycles, produces a strong mould with excellent permeability, superior castings surface and easily "cleans off" castings.



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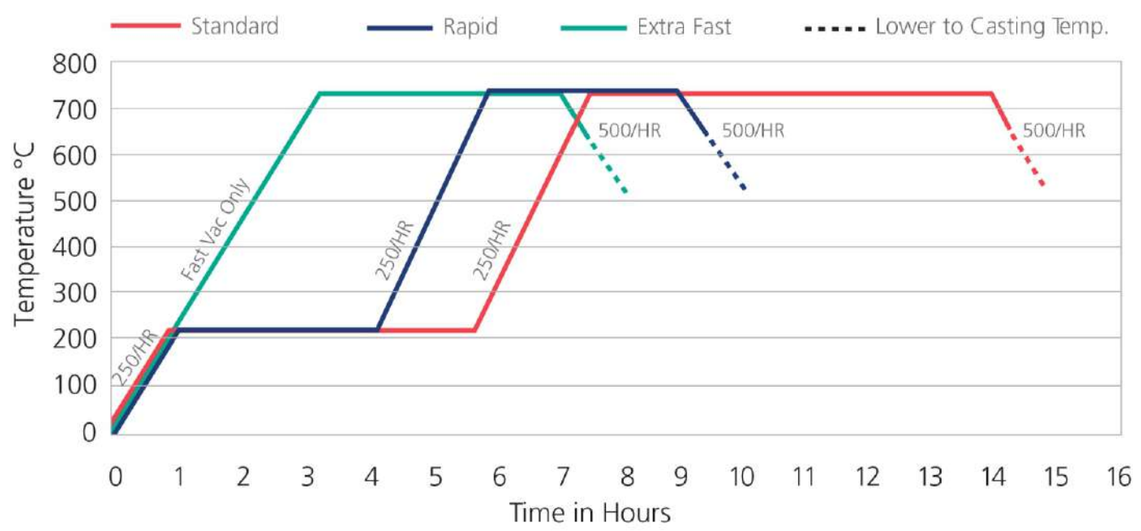
Do not remove flasks from furnace to cast until they have been held at casting temperature for a minimum of 1 hour. If held for less than 1 hour, the core of the flasks will be at a much higher temperature than the digital temperature display states, and may result in metal mould reaction.

- Slurry temperature 21°C
- Leave for 90 min to stand before burnout cycle

WATER TO POWDER RATIO	
MACHINE VACUUM MIXING	38:100
HAND MIX THEN VACUUM	40:100

MACHINE VACUUM MIXING	Min.
Weigh out water and powder	0
Add powder to water	0
Mix under vacuum	5
Pour flasks	2
Vacuum flasks	1
Total time take	8

HAND MIX THEN VACUUM	Min.
Weigh out water and powder	0
Add powder to water and mix	4
Vacuum mixer bowl	1
Pour flasks	1
Vacuum flasks	2
Total time taken	8



Starcast is available in the following packages:

- 22.5 KG Sack

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GOLD STAR 21

Gold Star 21 is a Quality and Versatile Investment Powder used for many years by the Indian Jewelry Industry. It has been developed for the most exacting requirements of High Definition Brass & Silver castings.

Gold Star 21 is a permeable Investment Powder precisely suitable for vacuum assisted castings.

It is a competitively priced product giving an Excellent Surface finish, Stronger mould and Easy Clean off resulting in reduced metal loss and less polishing time.





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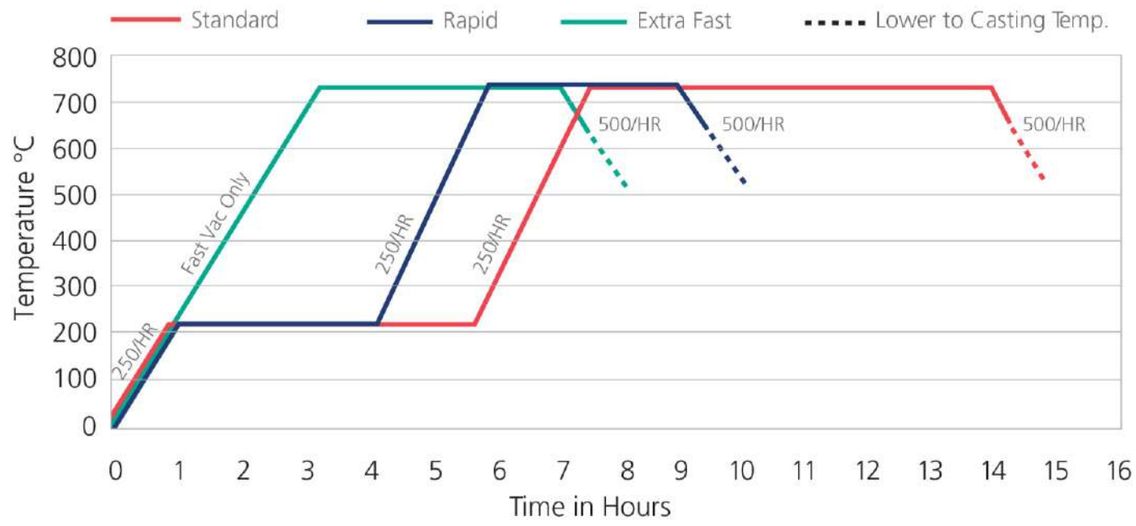
Do not remove flasks from furnace to cast until they have been held at casting temperature for a minimum of 1 hour. If held for less than 1 hour, the core of the flasks will be at a much higher temperature than the digital temperature display states, and may result in metal mould reaction.

- Slurry temperature 21°C
- Leave for 90 min to stand before burnout cycle

WATER TO POWDER RATIO	
MACHINE VACUUM MIXING	38:100
HAND MIX THEN VACUUM	40:100

MACHINE VACUUM MIXING	Min.
Weigh out water and powder	0
Add powder to water	0
Mix under vacuum	5
Pour flasks	2
Vacuum flasks	1
Total time take	8

HAND MIX THEN VACUUM	Min.
Weigh out water and powder	0
Add powder to water and mix	4
Vacuum mixer bowl	1
Pour flasks	1
Vacuum flasks	2
Total time taken	8



Gold Star 21 is available in the following packages:

- 22.5 KG Sack

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GOLD STAR XXX

For the casting of yellow and white gold up to 18ct. Gold Star XXX is a superior quality gypsum-bonded jewellery investment powder which has been specially developed by our Research Team to meet the demands of the modern casting department.

It is an ideal investment powder for casting Silver, all Yellow Gold, and can withstand the demands of White Gold alloy up to 18 carat and can be used for casting both by the centrifugal or vacuum assisted methods.

Gold Star XXX is a robust investment yet still produces excellent quality castings with superb surface finish and fineness of detail. When mixed XXX wets up readily producing a slurry which has greater flow characteristics and allows for the finest of detail of the wax pattern to be faithfully reproduced; XXX also "cleans off the mould very easily.

Gold Star Powders are the only investment manufacturer in the world to produce our own highest grade unmineralised cristobalite and silica at our calcining and milling facility. This economy of scale allows us to produce top quality investment powders at competitive prices without compromising quality.







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GOLD STAR XXX

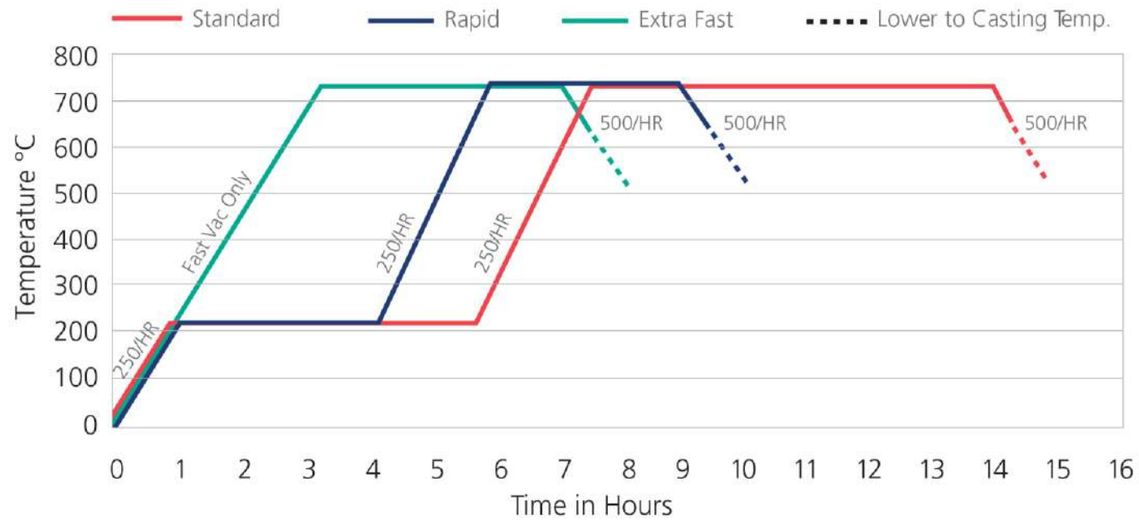
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- Use de-ionised water
- Weigh water and powder
- Slurry temperature 21°C
- Leave for 90 min to stand before burnout cycle

WATER TO POWDER RATIO	
MACHINE VACUUM MIXING	38:100
HAND MIX THEN VACUUM	40:100

MACHINE VACUUM MIXING	Min.
Weigh out water and powder	0
Add powder to water	0
Mix under vacuum	5
Pour flasks	2
Vacuum flasks	1
Total time take	8

HAND MIX THEN VACUUM	Min.
Weigh out water and powder	0
Add powder to water and mix	4
Vacuum mixer bowl	1
Pour flasks	1
Vacuum flasks	2
Total time taken	8



XXX is available in the following packages:

- 22.5 KG Sack
- 22.5 KG Plastic Drum

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GOLD STAR SONA 22

Gold Star Sona 22 has been formulated to deal with the most demanding situations, producing excellent results even at the most extreme temperatures. Sona 22 has optimised thermal expansions, permeability and particle size distribution to enable it to produce the highest quality castings and reproduction of Master Models.

Gold Star Sona 22 has the highest content of un-mineralised Cristobalite in the Gold Star range. A grade of Cristobalite is specifically manufactured for Sona 22 at our sister company's calcining and grinding facility, which ensures that the exact particle size grading required is achieved.

Gold Star Sona 22 is suitable for all Yellow and White Golds including High Percentage Palladium White Gold.



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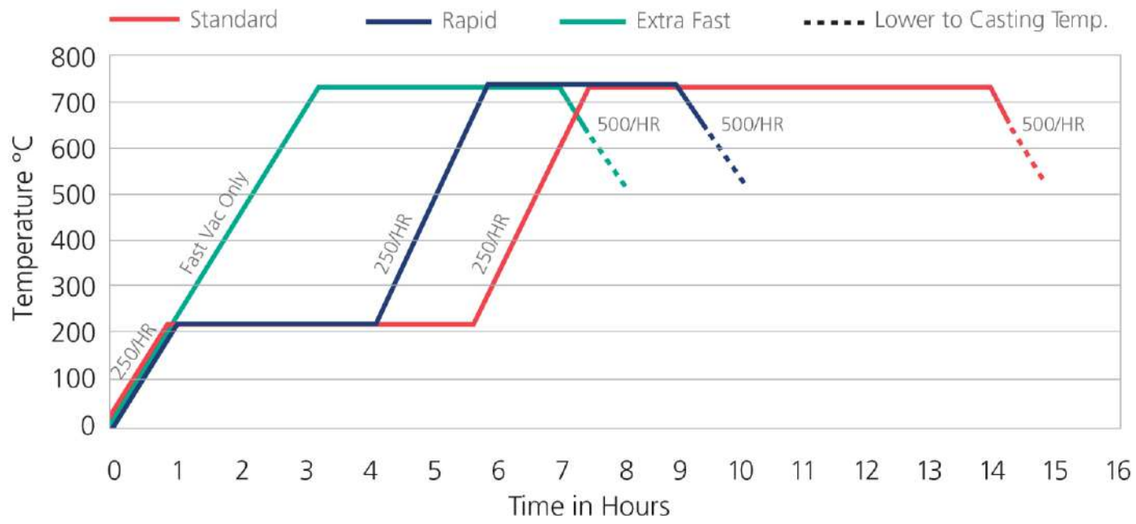
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- Use de-ionised water
- Weigh water and powder
- Slurry temperature 21°C
- Leave for 90 min to stand before burnout cycle

WATER TO POWDER RATIO	
MACHINE VACUUM MIXING	38:100
HAND MIX THEN VACUUM	40:100

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	1
Stop mixer and scrape blades	0.5
Mix under vacuum	3.5
Pour flasks	2
Vacuum flasks	1
Total time take	8



Sona 22 is available in the following packages:

- 22.5 KG Sack
- 22.5 KG Plastic Drum

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GOLD STAR SONA 22+

Gold Star Sona 22+has been formulated to deal with the most demanding situations, producing excellent results even at the most extreme temperatures. Sona 22+has optimised thermal expansions, permeability and particle size distribution to enable it to produce the highest quality castings and reproduction of Master Models.

Gold Star Sona 22+has the highest content of un-mineralised Cristobalite in the Gold Star range. A grade of Cristobalite is specifically manufactured for Sona 22+at our sister company's calcining and grinding facility, which ensures that the exact particle size grading required is achieved.

Gold Star Sona 22+is suitable for all Yellow and White Golds including High Percentage Palladium White Gold.



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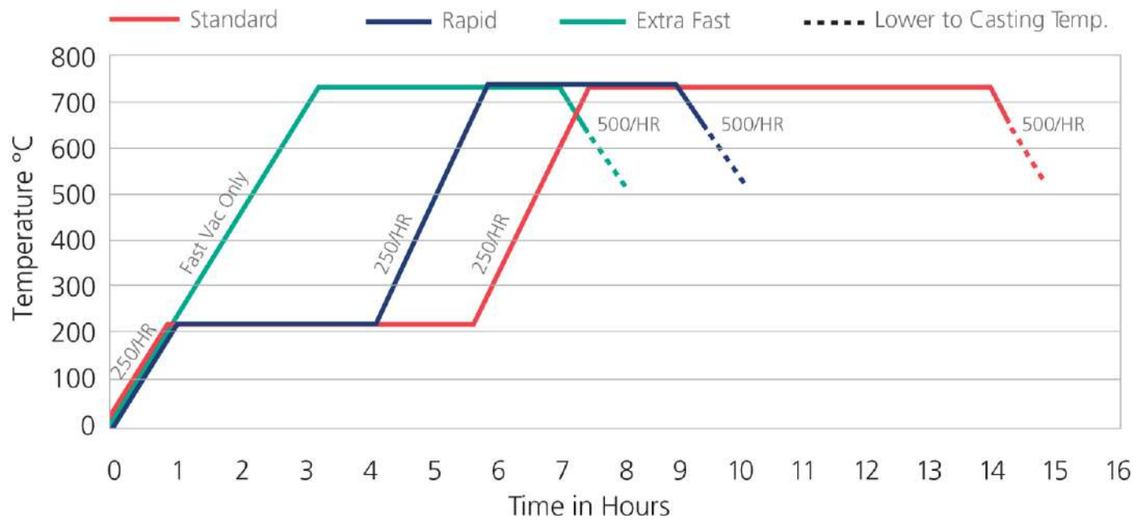
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- Use de-ionised water
- Weigh water and powder
- Slurry temperature 21°C
- Leave for 90 min to stand before burnout cycle

WATER TO POWDER RATIO	
MACHINE VACUUM MIXING	38:100
HAND MIX THEN VACUUM	40:100

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	1
Stop mixer and scrape blades	0.5
Mix under vacuum	3.5
Pour flasks	2
Vacuum flasks	1
Total time take	8



Sona 22 is available in the following packages:

- 22.5 KG Sack
- 22.5 KG Plastic Drum

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GOLD STAR OMEGA

Gold Star Omega has been formulated to deal with the most demanding situations, producing excellent results even at the most extreme temperatures. Gold Star Omega has optimised thermal expansions, permeability and particle size distribution to enable it to produce the highest quality castings and reproduction of Master Models.

Gold Star Omega has the highest content of un-mineralised Cristobalite in the GRS range. A grade of Cristobalite is specifically manufactured for Omega at our sister company's calcining and grinding facility, which ensures that the exact particle size grading required is achieved.

Gold Star Omega is suitable for all Yellow and White Golds including High Percentage Palladium White Gold.

OMEGA





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GOLD STAR OMEGA

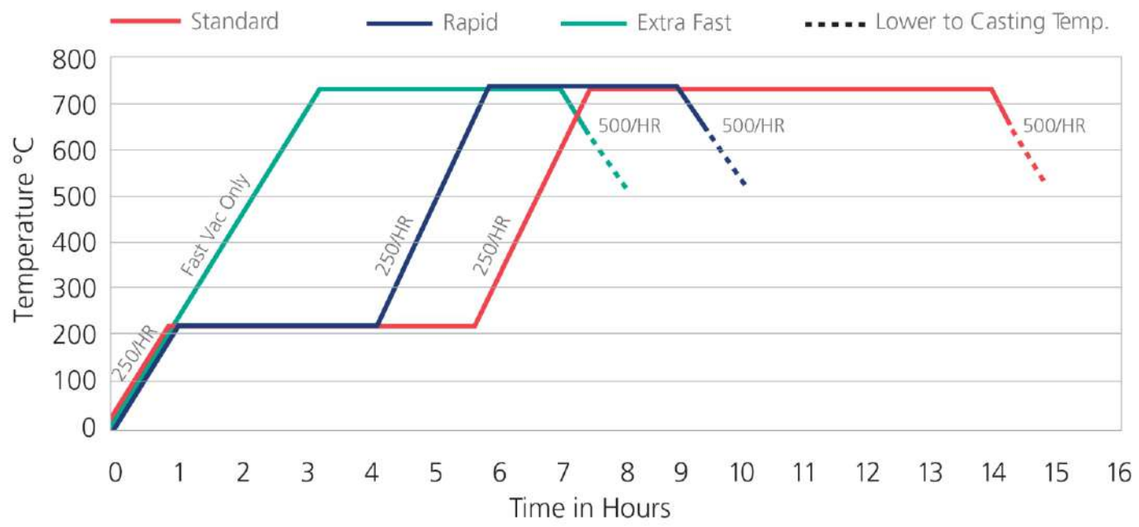
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- Use de-ionised water
- Weigh water and powder
- Slurry temperature 21°C
- Leave for 90 min to stand before burnout cycle

WATER TO POWDER RATIO	
MACHINE VACUUM MIXING	38:100
HAND MIX THEN VACUUM	40:100

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	1
Stop mixer and scrape blades	0.5
Mix under va cuum	3.5
Pour flasks	2
Vacuum flasks	1
Total time take	8



Gem Set is available in the following packages:

- 22.5 KG Sack
- 22.5 KG Plastic Drum

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GOLD STAR GEM SET

Gold Star Gem Set For the stone in place casting. Gem Set 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.

Gold Star Gem Set 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. Gold Star Gem Set 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. Gem Set will cast all alloys melting below 1350°C.





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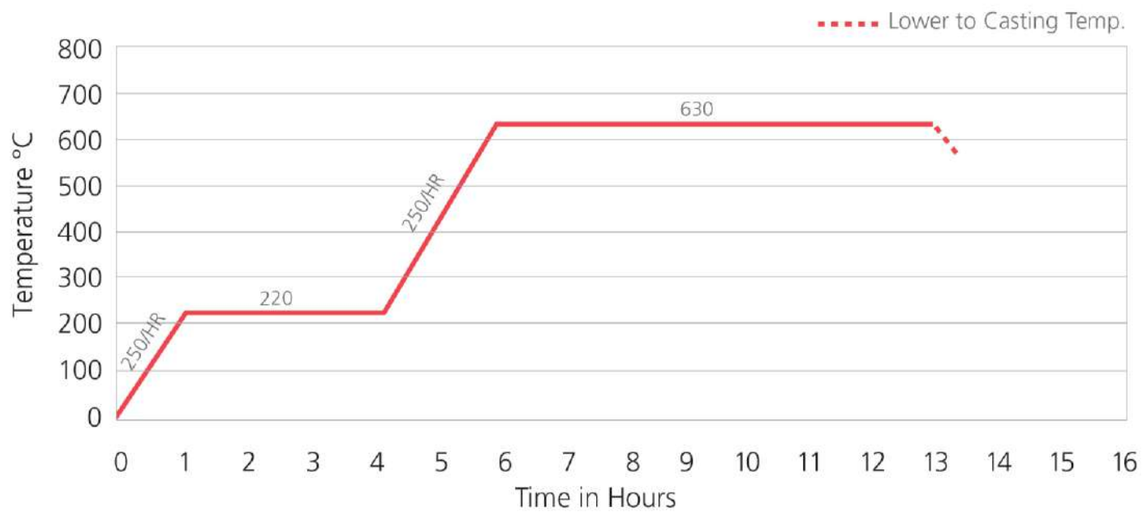
Do not remove flasks from furnace to cast until they have been held at casting temperature for a minimum of 1 hour. If held for less than 1 hour, the core of the flasks will be at a much higher temperature than the digital temperature display states, and may result in metal mould reaction.

- DO NOT STEAM DE-WAX
- Do not burnout above 630°C
- Do not quench, only knock out when cold

WATER TO POWDER RATIO	
MACHINE VACUUM MIXING	38:100
HAND MIX THEN VACUUM	40:100

MACHINE VACUUM MIXING	Min.
Weigh out water and powder	0
Add powder to water	0
Mix under vacuum	5
Pour flasks	2
Vacuum flasks	1
Total time take	8

HAND MIX THEN VACUUM	Min.
Weigh out water and powder	0
Add powder to water and mix	4
Vacuum mixer bowl	1
Pour flasks	1
Vacuum flasks	2
Total time taken	8



Gem Set is available in the following packages:

- 22.5 KG Sack
- 22.5 KG Plastic Drum

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SYMPHONY

TECHNICAL DATASHEET

MADE IN THE UK

Premium Investment Powder suitable for casting all Karat White, Rose and Yellow Gold From Wax & Resin Trees

GSP Symphony is an enhanced investment powder, developed for direct Resin / CAD casting, extensively tested and approved by jewellery manufacturers worldwide.

With the fast-paced advancements in 3D printing technology, resin formulations, and design demands, GSP remains dedicated to advancing our investment casting powders to meet the industry needs. Symphony is compatible with all manufacturers' casting resins and waxes and can easily cast all alloys, including high percentage Palladium White Gold.

The mixing, investing, and burnout processes remain consistent with standard investment powder procedures, ensuring seamless integration into existing workflows.



Key benefits of Symphony investment powder for CAD / CAM resin direct casting include:

- The highest quality raw materials sourced and graded for direct casting,
- Enhanced green strength to withstand high Resin / CAD expansion,
- Compatibility with any Resin manufacturer, clean cut surface finish with sharp edges free from inclusions.
- Easy removal after casting, similar to regular GSP investment powders.
- With its high cristobalite content, Symphony can endure a top burnout temperature of 850°C (1562°F), ensuring it can handle additional expansion stresses and eliminate residual carbons that might affect casting quality. It also has the ability to use a fast burnout cycle to have a casting within 6 hours of investing.
- It is also suitable for producing injection wax castings and can cast all Gold alloys, including high percentage Palladium White Gold.

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SYMPHONY

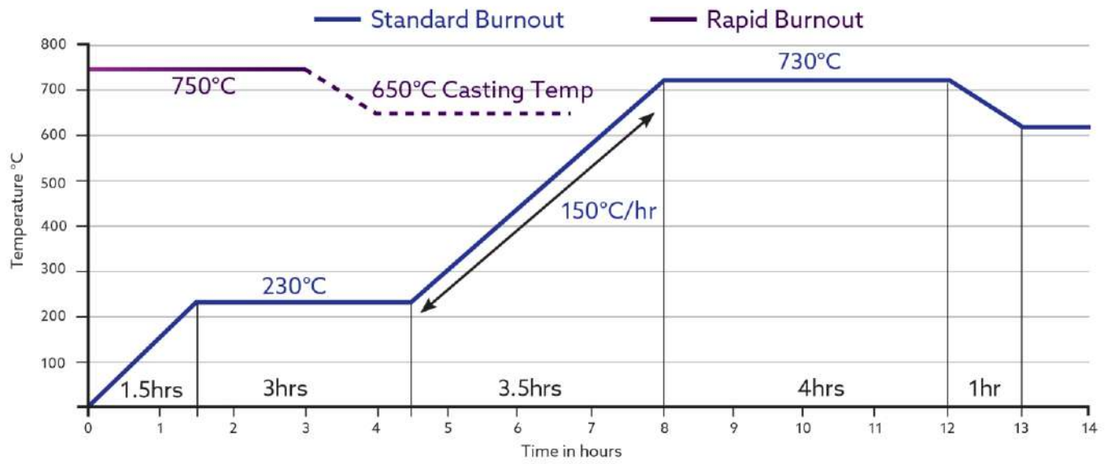
Do not remove flasks from furnace to cast until they have been held at casting temperature for a minimum of 1 hour. If held for less than 1 hour, the core of the flasks will be at a much higher temperature than the digital temperature display states, and may result in metal mould reaction.

- **Slurry temperature 21°C**
- **Leave for 90 min to stand before burnout**

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	1.25%
SETTING EXPANSION AFTER 2 HOURS	1.10%
VOLUME YIELD PER KG. OF POWDER	755 ml.

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

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



MADE IN THE UK

GOODWIN REFRACTORY SERVICES INDIA PVT. LTD.

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Liqua MOLD CLEAR

TECHNICAL DATASHEET



New LiquaMOLD Clear is the first Silicone RTV Rubber in the GRS range. LiquaMOLD Clear is a transparent two part 0% shrinkage, 10:1 mix ratio RTV Silicone molding rubber that cures at room temperatures and cures even faster at slightly warmer temperatures.

Normal cure time is 5-6 hours, faster cure of 1-2 hours is possible at 120°F / 50°C.

LiquaMOLD Clear makes strong, tough, tear resistant silicone rubber molds that remain formed and do not become softer over time.

LiquaMOLD Clear works well with all 3D printed resin models and patterns. LiquaMOLD is easy to measure, mix and pour.

LiquaMOLD Clear is strong, economical and long lasting.

- Rapid Molds from Rapid Prototypes.
- Finished Molds in as Little as 120 Minutes.
- Ideal for all 3D, CAD-CAM, Wax and Resin Models.

Available in 10+1 Kg Kit.

Name	LiquaMOLD Clear
Shore A Hardness	**38 +/- 2**
Mix Ratio by Weight	**10:1**
Rubber Shrinkage	**0.0%**
Viscosity	**70,000cps**
Cure Time	**5-6 hours**
Rapid Cure Time @120°F / 50°C	**60 - 120 mins**
Specific Gravity	**1.12**
Elongation Before Break	**370%**
Tensile Strength Before Break	**4.8 N/mm²**
Tear Strength Die C Before Break	**15.5 N/mm²**
Colour	**Clear**



*Shrinkage rates given are for the rubber mould itself. Final casting shrinkage rates depend on mouldmakers and caster's skill, knowledge, precision and attention to detail.
** Specific gravity. Water = 1.00. Low specific gravity = more moulds per pound/kg.

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GRS LiquaMOLD Clear is the first silicone RTV rubber in the GRS Liquid rubber range. Please read and observe the following instructions carefully.

1. STIR BEFORE USE! Mix 10 Parts A and 1 Part B by WEIGHT. Components MUST BE WEIGHED CAREFULLY. Use an accurate scale. DO NOT MEASURE BY VOLUME. DO NOT ESTIMATE. DO NOT GUESS! Make sure both parts are at room temperature.
2. Pour the required amounts of both parts A & B into a mixing container. A rubber mixing bowl of the type commonly used to mix jewelry investment is ideal.
3. Always pour Part B into Part A.
4. Mix thoroughly by hand for 3 to 4 minutes until no traces of the catalyst can be seen. Take care to scrape the sides of the mixing bowl into the centre several times during mixing.
5. Make sure the bowl is big enough to allow for temporary expansion of the rubber during vacuuming of 300% to 400% without overflowing.
6. Vacuum the liquid rubber for approximately 5 minutes, making sure that it boils and bubbles vigorously. Vacuuming is complete once the rubber rises and collapses. Do not wait for the rubber to stop bubbling completely.
7. Pour the liquid rubber into the mold frame, taking care to avoid entrapping air. Vacuum again for 3 minutes. Do not over-vacuum.
8. Working time before cure begins is approximately 30 to 40 minutes at room temperature.
9. Put the mold aside to cure at room temperature (77°F / 30°C) for 5 to 6 hours. Always remember that longer cure times will improve the mold and will not hurt it, while shorter mold times will result in soft and deformed molds.

The following is only a guide, the mass of your model will increase or decrease the amount of rubber needed.

Mold Size	Part A	Part B	Total
0.75"/ 19 mm	110.0 g	11.0 g	121.0 g
1.00"/ 25 mm	140.0 g	14.0 g	154.0 g
1.25"/ 32 mm	190.0 g	19.0 g	209.0 g
1.50"/ 38mm	210.0 g	21.0 g	232.0 g

1



Shake well before use.

2



Measure required parts by weight.

3



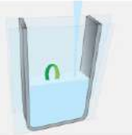
Add Part B to Part A

4



Vacuum.

5



Pour over application directly after agitation and vacuum.

6



Leave until fully cured.



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INJECTION WAXES

ECONOMY



KTC



IR53

A high quality economic all purpose wax that covers a variety of applications, KTC and IR53 is formulated to produce wax patterns with a high level of surface finish and detail reproduction across a wide range of item cross sections and designs.

GENERAL PURPOSE



IR39



GS528

General Purpose wax is a formulation which is suitable for most jewellery designs. This product has a balanced set of characteristics for the most demanding wax applications, with good flow, low shrinkage and easy to read.

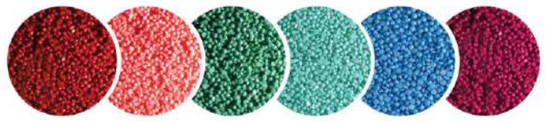


PREMIUM



IR49 / IR52

It's high flow characteristics make it very suitable for Intricate and Filigree Designs and Multiple Prongs for Stone Set pieces. It's high level surface finish and plasticity make it easy to remove from Complex Moulds. It's exceptional memory and durability makes it forgiving during Handling, Tree Building and Investing.



ALL AVAILABLE IN RED, PINK, GREEN, AQUA, BLUE AND MAGENTA

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Contents

Brasscast	(Brass Powder)	**4**
Starcast	(High Brass Powder)	**6**
21	(Silver Powder)	**8**
XXX	(Low Gold Powder)	**10**
Sona 22	(Mid Gold Powder)	**12**
Omega	(High Gold Powder)	**14**
Gem Set	(Stone Powder)	**16**
Synergy	(Resin Powder)	**18**
LiquaSil Clear	(Liquid Rubber)	**20**
Injection Waxes	(Wax)	**22**
About GRS		**23**

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