



**PROTO
RESINS**

DISCOVER OUR MOST DIVERSE LINE OF
PREMIUM CASTABLE RESINS
FOR JEWELRY MANUFACTURING



1. GARNET

Garnet is a perfect castable resin that covers an extended range of jewelry, not limiting itself to gem-setting. Garnet prints with accurate details and, in conjunction with the 3D printer used, provides exceptional print quality. With its fast sublimation properties and chemical structure, it gives clean and consistent burnouts, making it perfect for in-house and out-service casting. Designed to be compatible with a wide range of gypsum-bonded investments, it provides cleaner and smoother surfaces.

FEATURES:

- DLP/LCD Compatible
- No UV Post curing
- Consistent Casting
- Sharp Print Quality
- Filigree & Light Designs
- Low Shrinkage



		FILIGREE	FUSION	STANDARD	SOLID PARTS	CHAINS
GARNET	Printability	●●●●●	●●●●●	●●●●●	●●●●●	●●●●●
	Castability	●●●●●	●●●●●	●●●●●	●●●●●	●●●●●

PROPERTY	VALUE	STANDARD
Density	1.10 gram/cm3	ASTM D1475-13(2020)
Tensile Strength	6.42 MPa	ASTM D638-14
Flexural Strength	14.48 MPa	ASTM D790-02
Flexural Modulus	335.62 MPa	ASTM D790-02
Shore D Hardness	92	ASTM D2240-15(2021)
Viscosity	24.95 Seconds	DIN 53211-4
Color	Red	-

PRINTING FOR REFERENCE



INSTRUCTIONS

PRINTING

1. Make Sure To Pre-heat Up To 45c The Resin And Shake The Bottle For 30 Seconds Before Pouring Into The Tray.
2. If The Resin Is Sitting On The Tray For Longer Periods, Make Sure To Mix It With Silicone Spatula Timely.
3. It Is A Good Practice To Filter The Resin After Every Job.
4. It is suggested to Pre-Scale the model by 3% to compensate for shrinkage in Extra Light Designs.
5. You can use primer for better platform adhesion (Optional)

WASHING INSTRUCTIONS

1. It Is Recommended To Use Ethyl Alcohol 99% For Washing The Prints.
2. While Washing The Prints Do Not Soak Printed Models In Alcohol For More Than 20 Seconds.
3. Always Used Compresses Air For Drying The Printed Models.
4. Using Ultra Sonic Or Any Other Automatic Washing Equipment Don't Soak More Than 30 Seconds.
5. Make Sure That Printed Model Is Clear Of Any Residue Resin Or Alcohol After Washing And Drying.

INVESTMENT MIXING

Investing and casting from resin prints can be tricky, to say the least. The following recommendations are meant to assist our customers in obtaining the best possible casting results when investing and casting from resin prints.

It is recommended to use a 37/100 water to powder ratio for investing large, thicker prints, and a 38/100 ratio for lighter, smaller prints. Using more water will create a weaker investment mold for burning out resin.

After investing is completed, and before proceeding with burnout, allow invested flasks to sit (bench-set) undisturbed in a vibration-free area for a minimum of 3 to 4 hours (depending on flask size). (3 hours for flask sizes less than 3" x 4" (76.2 x 101.6 mm) and up to 4 hours for larger flask sizes. Drying out the investment and removing too much moisture can lead to mold cracks and metal flashing.

It Is Advised To Use Investment Brands That Are Exclusive For Resin Casting And Pay Special Attention To The Manufacturer's Instructions As Well.

Protospeed Recommends Investment Powders By

1. Prestige Optima 2. Plasticast 3. G-Mix 4. X-Vest

SUGGESTED BURNOUTS

Burnout Cycle #1 Recommended For Flask Sizes Less Than 50.8 X 76.2mm (2" X 3")

1. Load Flask Into Room Temp. Oven, And Ramp To 150c. (302f.) Over 30 Minutes.
2. Hold 150c. (302f.) 3 Hours.
3. Ramp To 750c. (1382f.) Over 3 Hours.
4. Hold 750c. (1382f.) 4 Hours.
5. Reduce Oven To Flask Temp. For Casting.
6. Hold Flask Temp. For Casting 2 Hours To Stabilize Temp. Throughout The Mold.
7. Cast.

Burnout Cycle #2 Recommended For Flask Sizes Larger Than 50.8 X 76.2mm (2" X 3")

1. Load Flask Into Room Temperature Oven And Ramp To 110c. (230f.) Over Thirty (30) Minutes.
2. Hold 110c. (230f.) Four (3) Hours.
3. Ramp To 450c. (842f.) Over One (1) Hour, Sixty (60) Minutes.
4. Hold 450c. (842f.) Two (2) Hours.
5. Ramp To 780c. (1436f.) Over Two (2) Hours.
6. Hold 780c. (1436f.) Four (4) Hours.
7. Reduce Temperature To Desired Flask Temperature For Casting.
8. Hold Flask Temperature For Casting Two (2) Hours.
9. Cast.

Rapid Burnout (For Use With Small Flasks Less Than 50.8 X 50.8mm. (2 X 2") With One, Or 2 Prints On Tree.

1. Load Flasks Into Oven Pre-heated To 150c. (302f.).
2. Hold 150c. (302f.) Two (2) Hours .
3. Ramp To 450c. (842f.) Over One (1) Hour.
4. Hold 450c. 842f.) 30 Minutes.
5. Ramp To 780c. (1436f.) Over One (1) Hour.
6. Hold 780c. (1436f.) 2 -3 Hours (Depending On Thickness Of Design).
7. Reduce Oven To Flask Temperature For Casting .
8. Hold Flask Temperature For Casting One Hour.
9. Cast.

Rapid Burnout (For Use With Flask Sizes Less Than 3" X 4") Observe Recommended Bench-set Time

1. Load Flasks Into Oven Pre-heated To 550c. (1022f.).
2. Hold 550c. (1022f.) One (1) Hour.
3. Increase Temperature To 780c. (1436f.) Within 2 Hours.
4. Hold 780c. (1436f.) Four (4) Hours.
5. Reduce Temperature To Desired Flask Temperature For Casting.
6. Hold Flask Temperature For Casting One Hour.
7. Cast.