

GLASS-CAST™ 910 INVESTMENT

Glass-Cast 910 investment is a staple in the glass casting community. It is widely recognized as the strongest mold material available for glass casting on the market today and is considered the glass caster's best choice for large pieces or configurations that will place significant stress on the mold material.



Typical Material Properties*

Water/Powder Ratio	28/100
Pour Time	10-11 minutes
Set Time	14-17 minutes
Slump	4-4¼ inches
Green Compressive Strength	1000 psi
Post Fired Compressive Strength	150 psi
Mixed Density	1.88 g/ml
Permeability (Darcy)	0.020
Maximum Casting Temperature	1540 °F (838 °C)

*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.

Mold Making

Mix 100 parts Glass-Cast powder to the appropriate parts water by weight. Mix for 2-3 minutes. R&R recommends mechanical mixing to achieve the best mixing action. It is possible (but not required) to vacuum the mix until the investment rises and breaks to eliminate entrapped air before pouring around the pattern.

Pour the Glass-Cast mold material down the side of the flask or mold frame until the patterns are covered to an appropriate depth. This depth will vary depending on the size of glass casting and the strength of the mold material you use. It is possible (but not required) to vibrate or vacuum the mold to remove air bubbles, which may adhere to the patterns. This operation normally takes 1-1½ minutes. R&R recommends that the mold then sit a minimum of 1 hour after it has set, before moving onto pattern removal.



RANSOM & RANDOLPH

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Pattern Removal

Re-usable Patterns

After waiting a minimum of 1 hour, re-usable patterns can be physically removed from the mold.

Wax Patterns

Two methods of wax removal are commonly used: dry dewax and steam dewax. For dry dewaxing, place the mold into a kiln or furnace at a temperature of 300-350 °F (149-177 °C) and hold for 3-4 hours. For steam dewaxing, place the mold into the steam dewaxer. Steam dewax only for the time required to remove the wax and no longer. The amount of time required to dewax the molds will vary depending on the size of the mold. After steam dewaxing, it is recommended to immediately move to the curing of the mold.

Mold Curing

After the pattern is removed, place the mold into a kiln or furnace at a temperature of 300-350 °F (149-177 °C) and hold until the water is removed from the mold. The temperature of the mold can then be raised to desired casting temperature at a rate of 150-200 °F (66-93 °C) per hour.

Glass Application

Once the pattern has been removed, glass frit can be placed into the mold at any time during the process. The glass can then be heated at the same time as the mold. When crucible casting, it is important to have all water removed from the mold before casting. It is recommended that mold temperature be at least the desired annealing temperature of the glass.

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

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

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