

# RANCAST™ INVESTMENT

## Versatile Investment Designed for the Production of Non-Ferrous Artwork

Rancast investment is an economical, industrial-grade investment specifically designed for the production of non-ferrous artwork. This calcium sulfate bonded investment containing cristobalite, fiberglass and various specially graded refractories provides exceptional detail reproduction with superior mold strength. Rancast investment is successfully employed from small to very large molds using standard methods of investing for conventional solid mold lost wax casting.

## Typical Material Properties\*

Consistency (Water/Powder Ratio)	Working Time	Initial Setting Time	Volume of Mixed Investment
38/100 by weight	14-15 minutes	<22 minutes	780 cm <sup>3</sup> /kg of powder

\*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.

## Application Instructions

Mix 100 parts Rancast investment powder to 38 parts water by weight. Mechanically mix for 2-3 minutes. Vacuum the mix until the investment rises and breaks to eliminate entrapped air.

Pour the investment down the side of the flask, or mold frame, until the patterns are covered to a depth of approximately 1" (2.5 cm). Vibrate or vacuum the mold to remove air bubbles, which may tend to adhere to the patterns. This operation normally takes 1 to 1½ minutes. Top off the flask with investment and allow to set for 2 hours before starting wax removal and burnout.

## 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, immediately place the mold into a furnace at a temperature of 300-350 °F (149-177 °C) and hold for 3-4 hours.

After the mold is dewaxed, raise the temperature to 1300-1350 °F (704-732 °C) at a rate of 150-200 °F (66-93 °C) per hour. Hold the molds at this temperature until the pattern material is completely eliminated. Burnout will take approximately 5 hours at this temperature, although the time will vary depending upon furnace loading and flask size.

After burnout, the molds should be cooled in the furnace to the desired casting temperature. This is normally 400-550 °F (204-288 °C) for aluminum and 800-1000 °F (427-538 °C) for copper based alloys.

## Safety

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

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



## RANSOM & RANDOLPH

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