

# R&R<sup>®</sup> Rancast<sup>™</sup> Investment

R&R<sup>®</sup> Rancast<sup>™</sup> 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. R&R Rancast is successfully employed from small to very large molds using standard methods of investing for conventional solid mold lost wax casting.

## Properties:

Consistency:	W/P = 38/100 (by weight)
Working Time:	14-15 minutes
Initial Setting Time:	<22 minutes
Compressive Strength, 2 Hrs:	3.44 MPa or 35.2 kg/cm <sup>2</sup>
Fired Strength:	0.83 MPa or 8.4 kg/cm <sup>2</sup>
Volume of Mixed Investment:	780 cm <sup>3</sup> /kg of powder

## Directions:

Mix 100 parts investment powder to 38 parts water (by weight). Mechanically mix for two to three minutes. Vacuum the mix until the investment rises and breaks to eliminate entrapped air.

Pour the investment down the side of the flask until the patterns are covered to a depth of approximately one inch (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 1-1/2 minutes. Top off the flask with investment and allow to set for two hours before starting wax removal and burnout.

Two methods of wax removal are commonly used: dry dewax and steam dewax. For dry dewaxing, place the mold into a furnace at a temperature of 300-350°F (150-177°C) and hold for 3 to 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 (150-177°C) and hold for 3 to 4 hours.

After the mold is dewaxed, raise the temperature to 1300-1350°F (704-732°C) at a rate of 150-200°F (83-111°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.

### WARNING!

Rancast investment contains respirable crystalline silica (RCS). Do not breathe dust. May cause delayed lung injury (silicosis, pneumoconiosis). Follow OSHA Safety and Health Standards for crystalline silica. See Material Safety Data Sheet (MSDS) for detailed information.



R&R

DENSPLY

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