



CRYSTALCAST (M248)

PRODUCT TYPE

CRYSTALCAST is an investment powder specifically developed for the casting of glass

CRYSTALCAST has been carefully formulated to:

- blend easily to a smooth creamy consistency.
- enable easy air elimination thus eliminating nodules on the casings.
- achieve fast, clean burn-outs.
- give castings with smooth surfaces, sharp definition and dimensional accuracy.

Stringent quality control testing of both raw materials and the finished product, ensure that CRYSTALCAST produces consistently superior casting results, time after time.

* NOTE: THE MAXIMUM BURN-OUT TEMPERATURE MUST NOT EXCEED 950°C.

CHEMICAL COMPOSITION

CRYSTALCAST is a gypsum based investment having a typical

- (a) Silica content of 73%
- (b) Calcium Sulphate content of 23%
- (c) Organics content of 1%

TYPICAL DATA

<u>PROPERTY</u>	<u>UNITS</u>	<u>MAX</u>	<u>MIN</u>
Gloss-off Time	Mins	14	12

Powder : Water Ratio 100 : 32

PACKAGING-STORAGE

CRYSTALCAST is supplied in 22.7kg and 45.4kg paper sacks. 45.4kg fibre or metal drums are available "To Order". They should be kept dry and used in rotation. Exposure to moisture and prolonged storage will result in deterioration.

CRYSTALCAST is supplied as a dry powder which when mixed with water rapidly sets as a dense, hard mass for the production of moulds for the casting of crystal and glass.

MIX PROCEDURE

1. The wax pattern should be constructed so that after the de-wax process, there is a reservoir above the pattern that can be filled with crystal for the casting process.
2. Determine the weight of powder and the volume of water.

Goodwin Refractory Services Ltd

Spencroft Road,
Newcastle-under-Lyme,
Staffordshire,
ST5 9JE, England

Tel +44 (0)1782 663600

Fax +44 (0)1782 663611

3. Weigh out the powder and measure its temperature.
4. Adjust the water temperature so as to give a slurry temperature of 20°C.
5. Measure the required volume of water into a clean mixing bowl.
6. Add the powder to the water.
7. Mix by hand for 30 seconds, to break up any lumps.
8. Mix by machine for a further 3 minutes.
9. Vacuum the investment in the bowl (not more than 2 minutes).
10. Pour the investment slowly down the side of the container until the wax patterns are covered.
11. Vacuum the investment in the container (not more than 2 minutes).
12. Let the container stand undisturbed (at least 1 hour is best).
13. Remove the container from around the investment.
14. Remove the wax by steam de-waxing for 1 hour.
15. Load the top of the mould with enough crystal to fill the pattern.
16. Place the mould in the furnace and follow a similar firing cycle to that given below. In general the soak periods given in the cycle will be dependent on the size of casting. Smaller pieces will require shorter soak times and larger pieces will require longer soak times.

80°C/hr to 950°C

Soak for 18 hours

Cool to 600°C at 80 C an hour

Cool to room temperature at 25 C per hour

The dwell times may vary due to the size of the piece.

17. Remove from the furnace and carefully remove the investment from the casting.

CAUTION: Cleanliness is essential for consistent results.
Exposure to moisture and prolonged storage will result in deterioration.

HEALTH AND SAFETY

**CAUTION: CRYSTALCAST CONTAINS SILICA AND IS HARMFUL BY INHALATION
BECAUSE OF DANGER OF CUMULATIVE EFFECTS**

DO NOT BREATHE DUST!

ISSUE: DS327

JUNE 2003

JEWELLERY

AUTOMOTIVE

AEROSPACE

INDUSTRIAL

www.grscastingpowders.com

Registered Office: Ivy House Foundry, Hanley, Stoke-on-Trent ST1 3NR
Registered in England: No. 01797882