

emdin | instructions

CRYSTALCAST

MICRO-FINE HIGH HEAT CASTING INVESTMENT

Use with or without casting rings.
CRYSTALCAST is an investment that does it all.

Crystalcast is an enhanced version of STARVEST. While similar in properties to Starvest, it has higher thermal expansion and therefore more total expansion.

LIQUID DILUTION

	Powder	Liquid MI	Water ml
Non-precious Alloys			
	60g	12.0	2.5
	90g	17.5	4.5
	100g	19.5	4.5
	160g	31.5	7.0
Precious & Semi-precious alloys			
	60g	9.5	5.0
	90g	14.0	7.5
	100g	15.5	8.5
	160g	25.0	13.5
Type III gold alloys			
	60g	7.5	7.0
	90g	11.5	10.5
	100g	12.0	12.0
	160g	19.5	19.0

PHYSICAL PROPERTIES

Liquid to powder ratio: 24 to 100
Liquid dilution: See directions below.
Working Time: 5 minutes min. at 72F.

Setting Time: 8 to 12 min. at 72F.
Setting Expansion: 1.7 to 2.4 %
Thermal Expansion @700 C: 1.6%

GENERAL MIXING DIRECTIONS

Hand Spatulate powder into liquid thoroughly, then mix under vacuum on low speed mixers (200 to 450 rpm) for 60 to 90 seconds. Always monitor the liquid and powder temperatures before mixing. Hold under vacuum for another 30 seconds before pouring into the casting ring.

If the material appears to be setting too fast reduce mixing time to as low as 30 to 45 seconds or cool the liquid to desired temperature as explained elsewhere.

ADJUSTING EXPANSION

To INCREASE expansion: Use more liquid and less water. Keep the total amount of mixing liquid the same as in the chart.

If more expansion is needed even after using straight 100% liquid, increase the liquid to powder ratio and mix for less time, say 30 seconds mechanically under vacuum at low speed.

If still more expansion is needed order the high expansion **GREEN liquid** and follow **SLOW BURNOUT only**.

To DECREASE expansion: Use more water and less liquid. Do just the opposite of the technique for increasing expansion above.

FAST 1-HOUR BURN-OUT:

After 20-minute bench place the mold in an oven preheated to 600 to 800 degree F. Wait 15 minutes and then raise temperature 10 to 15 degrees per minute to casting temperature. Hold for 30 to 45 minutes and cast.

SLOW BURN-OUT:

After 20 to 30 minutes bench set place the mold directly in a cold oven. Use 2-stage burnout. First Raise temperature slowly at 7 to 10 degrees F per minute to 600 degrees F; hold for about 20 minutes and then raise the temperature 10 to 15 degrees F to desired mold temperature. Hold for about 30 minutes and cast. **USE THIS METHOD WITH STRAIGHT LIQUID.**

FOR BEST RESULTS

The Average of the temperatures of the LIQUID and the POWDER should be 72 Degrees F.

If the POWDER temperature is TOO HIGH then the LIQUID temperature should be LOWERED so that the AVERAGE of the TWO is about 72 Degrees F.

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