

# emdin | instructions

## CASTRITE-NP

Micro-fine Phosphate Bonded Investment for Non-Precious Alloys

### GENERAL MIXING DIRECTIONS

Hand spatulate powder into liquid thoroughly, then mix under vacuum on low speed mixers (200 to 450 rpm) for 45 to 60 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.

### FAST 1-HOUR BURNOUT

After 20 to 30 minutes bench set place the mold directly in a preheated oven at 1000 to 1200 degrees F. Hold at this temperature for about 20 minutes and raise temperature rapidly to desired mold temperature cast or place into a preheated oven at casting temperature. Hold at casting temperature for 30 minutes or more and cast. The entire procedure can be completed in less than one hour.

### SLOW BURNOUT

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 30 minutes and then raise the temperature rapidly to desired mold temperature. Hold for about 30 to 40 minutes and cast.

### LIQUID DILUTION

	Powder	Liquid MI	Water MI
<b>Non-precious Alloys</b>			
	60g	12.0	2.5
	90g	17.5	4.0
	100g	19.5	4.5
	160g	31.5	7.0

### PHYSICAL PROPERTIES

Liquid to powder ratio: 24-25 to 100  
Liquid dilution: See directions below.  
Working Time: 5 minutes min. at 72F.  
Setting Time: 15 min. MAX at 72F.  
Setting Expansion: 2.5 to 3.5 %  
Thermal Expansion @700 C: 1.2-1.4%

### 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, 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 the instructions for this liquid.

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

### 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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