

	<h1>Buntrock Industries, Inc.</h1> <p>Investment Casting Supplies</p>	Document#: 7.6
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Rev	Description of Change	Author	Date
0	Initial Release	Tim George	1/12/14

1.0 Scope:

- 1.1 This procedure describes a method for measuring the temperature of water-based slurry. Slurry temperature is a factor that should be controlled to produce consistently good shell molds.

2.0 Purpose:

- 2.1 Slurry temperature is an important factor to control because temperature affects binder stability, drying behavior, and therefore mold quality. For example, as slurry temperature increases, binder stability decreases and rate of drying increases. If this condition is not accommodated, mold quality will suffer with increased risk of casting defects such as run-outs and inclusions.

3.0 Hazard and Safety:

- 3.1 Consult the Material Safety Data Sheet (MSDS) for required handling procedures and Personal Protective Equipment (PPE) required.

4.0 Equipment:

- 4.1 A partial immersion glass thermometer or digital thermometer capable of being read to 0.5° F (-17° C).
 - 4.1.1 Note that immersion thermometers have a line above the bulb that indicates the depth to which the thermometer should be dipped into the slurry to give an accurate reading.

5.0 Procedure:

- 5.1 Immerse thermometer in the slurry and hold at this depth until the temperature stabilizes.
- 5.2 With thermometer still immersed, read the temperature to the nearest half-degree.
- 5.3 Remove thermometer from the slurry and clean it immediately.
 - 5.3.1 Note: Thermometers are fragile and must be handles carefully during use. Thermometers must be regularly calibrated.

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5.4 Record results on a control chart such as an I Chart or Xbar/R Chart. If temperature falls outside established tolerance band, then production should be stopped until corrective action brings slurry temperature back into control.

6.0 References:

6.1 None.