

## **CIRCLE SYSTEMS, INC.**

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## **TECHNICAL BULLETIN #192**

### **MI-GLOW 218X**

MI-GLOW 218X is a green magnetic powder used for fluorescent magnetic particle inspection. This product is a premix of MI-GLOW 118 fluorescent particles and WETTING AGENT 4X for use in a water system. MI-GLOW 218X is designed for revealing defects such as those found in billet inspection.

Particle Color: Fluorescent yellow-green

Specific Gravity: 1.1 g/ml

Particle Size: Not less than 98% passage through US Standard No. 150 (106  $\mu$ m) sieve

Temperature Limit: 120°F Maximum

Preparation: MI-GLOW 218X should be used at a concentration of 32 oz. av. (2.4 grams/liter) per 100 gallons of water. For best results, add a small amount of water to the mixture to form a slurry prior to addition to the bath.

Concentration Test: The suspension as delivered on the part or billet should be tested for magnetic substance content by the following method at 8-hour intervals or shorter intervals if required by the user. The method of test should be as follows:

1. Run the circulating pump on the test equipment for at least 30 minutes.
2. Fill a 100 ml graduated centrifuge tube as specified in ASTM D96 or equivalent, to the 100 ml mark with suspension directly from the hose or device used for applying it to the part in an inspection, or from an immersion tank. Demagnetize the suspension if considered necessary and let it stand undisturbed for 30 minutes.
3. Read the volume of the precipitate in the graduate. Adjust the reading to account for any dirt, scale, or other foreign matter which may be present. The typical volume should be 0.10 to 0.25 ml. NOTE: In addition to the above test, the user should also use a suitable standard test piece which is periodically run through the system (at least every 4 hours, or more frequently if needed). This should be performed in accordance with MIL-STD-1949 or ASTM E 1444.

September 2008