

CIRCLE SYSTEMS, INC.

479 West Lincoln
P. O. Box 1228
Hinckley, IL 60520
Ph.: 815-286-3271
Fax: 815-286-3352
customerservice@circlesafe.com



TECHNICAL BULLETIN #265S RTU

MI-GLOW 820S RTU

MI-GLOW 820S RTU is a Ready-to-Use water bath used for magnetic particle inspection, packaged in a hand-held spray bottle. The water bath contains non-fluorescent particles and special water chemistry, which consists of corrosion inhibitors, anti-foaming agents, wetting agents, and pH buffering agents. MI-GLOW 820S RTU is designed for revealing very fine defects on both machined and unfinished ferro-magnetic materials.

Properties

Particle Color: Non-fluorescent black

Concentration: 9.5g/l

Particle Size: Not less than 98% passage through U.S. Standard No. 325 mesh sieve (45 μm) as defined in AMS 3044. The typical range of particle sizes is from 0.5 μm to 4.0 μm , with an average particle size of 1.5 μm .

Particle Sensitivity: MI-GLOW 820S RTU shows a minimum of 6 lines on an AISI 01 Ketos tool steel ring (as defined in SAE AS5282), set on a 1-inch diameter copper bar, magnetized with 2500 A of direct current.

Particle Certification: Particles meet all relevant specifications, including but not limited to MIL-STD-1949, AMS 3042, MIL-STD-271, NAVSEA 250-1500-1, NTR-1E, ASTM E 1444. Certification is available with each shipment.

Temperature Limit: 120°F Maximum

Preparation

Thoroughly shake the bottle, insert the spray nozzle, and apply to the parts for inspection.

Lighting

A minimum of 100 foot candles (1000 lux) of visible light at the part surface per ASTM E 709 and ASTM E 1444 is recommended.

System Maintenance:

Corrosion Inhibition -- For best results, the system should be run in the pH range of 8.5 - 9.5, as verified by testing with a pH meter or pH paper.

Concentration Test -- If it becomes necessary to verify the concentration in the bottle, thoroughly shake the bottle and the method of test should be as follows:

1. Fill a 100 ml graduated centrifuge tube as specified in ASTM D96, or equivalent, to the 100 ml mark with suspension directly from the bottle. Demagnetize the suspension, if considered necessary, and let it stand undisturbed for 60 minutes.
2. Read the volume of the precipitate in the graduate. The typical volume should be 1.0 to 2.4 ml. NOTE: Very fine particles may go into colloidal suspension

Shelf Life:

Five (5) years, when sealed bottles are not subjected to extreme heat or cold.

DISCLAIMER: OUR TECHNICAL ADVICE, INFORMATION AND STATEMENTS, GIVEN VERBALLY, IN WRITING OR IN THE FORM OF TEST RESULTS, ARE OFFERED FOR YOUR GUIDANCE, WITHOUT WARRANTY. **NO WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE IS MADE.** IT IS THE USER'S RESPONSIBILITY TO TEST THE SUITABILITY OF EACH PRODUCT FOR HIS INTENDED PROCESS AND APPLICATIONS. OUR GUARANTEE IS LIMITED TO THE CONSISTENT QUALITY OF OUR PRODUCTS.

July 2009