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TECHNICAL BULLETIN #183

MI-GLOW 106 (Particles Only)

MI-GLOW 106 is a black magnetic powder used for white light magnetic particle inspection. It is formulated for use in a solvent media, but may also be used with specially formulated MI-GLOW water conditioners. MI-GLOW 106 is designed for revealing finer defects, such as those found in finished products or those revealed after grinding procedures.

PROPERTIES

Particle Color: Black

Specific Gravity: 0.4 g/ml

Particle Size: Not less than 98% passage through US Standard No. 325 (45 μm) sieve as defined in AMS 3042. The typical range of particle sizes is from 0.5 μm to 4.0 μm, with an average particle size of 1.5 μm.

Sensitivity: MI-GLOW 106 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(SH), NAVSEA 250-1500-1, NTR-1E. Certification is included with each shipment.

Temperature Limit: 120°F Maximum

Preparation: MI-GLOW 106 should be used at a concentration of 10-15 oz. av. per 10 gallons (9.5 grams/liter) of solvent. For best results add a small amount of solvent to the powder and 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 other 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. The volume should be 0.9 to 1.0 ml.

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