



MG-3410 Magnaglo Wet Method Fluorescent Materials

General Description

MG-3410 is a dry, free flowing, green magnetic powder which fluoresces bright green under black light (wavelength of 365 nanometers).

Typical applications include magnetic particle inspection of steel billets, tube rounds and large castings for the detection of small to large defects.

MG-3410 is used with water as the suspension vehicle. The powder contains conditioners which improve the magnetic particle suspendibility, mobility and wetting of test part surface. No additional wetting or conditioning agents are required when MG-3410 is used.

The bright fluorescent color of MG-3410 contrasts with the background of clean metal surfaces when viewed under black light in a darkened area.

The recommended use concentration of MG-3410 is 1/10 to 1/5 oz. per gallon of water (0.75 to 1.5 grams per liter).

Composition

MG-3410 is composed of Magnaglo MG-410 magnetic particles and wetting agents.

Safety

1. MG-3410 is intended for industrial use by qualified personnel only.
2. Do not smoke or eat while using MG-3410. Wash hands thoroughly after use.
3. Wear protective hand wear to protect hands from drying out from repeated contact with the water bath.
4. Store in closed container in a dry location.
5. Material Safety Data Sheet available upon request.

Typical Properties (Not a Specification)

Color under white light:	Green
Color under black light:	Green fluorescence
Particle size:	Same as MG-410
SAE sensitivity:	6
Setting volume:	0.02 mL @ 1/10 oz./gal. 0.04 mL @ 1/5 oz./gal.
pH:	Neutral
Temperature limit:	120° F maximum

Bath Preparation

MG-3410 is used in water for inspecting steel billets. Weigh out powder and add to agitated bath. Allow bath to mix for 30 minutes or until uniform.

Concentration Control

The bath strength should be maintained constant at all times to ensure consistent results. The concentration should be checked at make-up time and at least once each day. The most widely used method of control is by gravity settling in a graduated ASTM pear shaped centrifuge tube. MAGNAFLUX P/N 507923 is recommended for MG-3410, with a stem measure of 0.2 ml in 0.01 ml graduations.

The tube is filled to the 100 ml line with well mixed bath. The tube is placed in the stand in a vibration-free location for 30 minutes. After 30 minutes the settling volume is taken which indicates the amount of magnetic particles present in the bath. (Tube may have to be swirled to bring down particles stuck on sides of tube).

In billet units the settling tube should be examined under black light to determine the amount of non-fluorescent scale present in the bath. Scale will reduce the brightness of the fluorescent indications and may completely overwhelm the fluorescent particles preventing flaw detection.

A concentration of 1/10 oz./gal. of MG-3410 will have a settling volume of 0.02 ml. If the reading is too high, add water, if too low, add powder. Water should be added to prevent excessive buildup of wetting agent from continual addition.

Application

Parts should be cleaned prior to testing to reduce bath contamination and to ensure a more desirable test surface. The bath must be continuously agitated when in use to ensure uniformity, as particles will settle out of suspension on standing.

Using the wet continuous method, the bath is applied to all surfaces of the part. The instant the bath stream is removed from the part the magnetizing current is applied. The indications will be formed during the current shot. If the bath is applied after the magnetizing shot, the force of the bath application may wash away indications.

Post Inspection Cleaning

If required, parts may be demagnetized before cleaning to ensure ease of particle removal.