

MAGNAGLO®

Ready to Use Fluorescent MPI Bath

MAGNAGLO® 20 B

General Description

20B contains MAGNAFLUX 14A powder as its main ingredient.

This material is the choice for aerospace applications giving clear fluorescent green indications when viewed in a darkened area under UV(A) of peak wavelength 365nm. A suitable UV source for such an application is the Magnaflux ZB-100F

Benefits

- ✓ Ready to use
- ✓ Good sensitivity
- ✓ Clear indications

Applications

20B is used in conjunction with suitable magnetizing equipment and a UV(A) source to locate medium fine surface and slightly subsurface discontinuities in ferrous materials.

Typical defects found include shrink cracks, welding defects, grinding cracks, quenching cracks and fatigue cracks.

Composition

20B is a dry mix of 14A fluorescent powder and WA-2B water conditioner (contains wetting agents and corrosion inhibitors) in a dry mix formula. This product is added to a water bath.

Like all Magnaflux materials Magnaglo 20 B is closely controlled to provide unique batch to batch consistency and uniformity to assure optimum process control and inspection reliability.

Method of Use

Components should be cleaned prior to testing to reduce the risk of bath contamination and to provide a suitable test surface. The bath can be applied by spraying, immersion or flooding. The bath must be mixed thoroughly prior to use and must be kept agitated during testing.

Using the wet continuous method, the bath is applied to all surfaces of the component during magnetization. The indications will be formed during the application of magnetizing current. The flow of bath must be stopped before the magnetizing current is switched off, otherwise there is a risk that the force of the bath application may wash away indications.

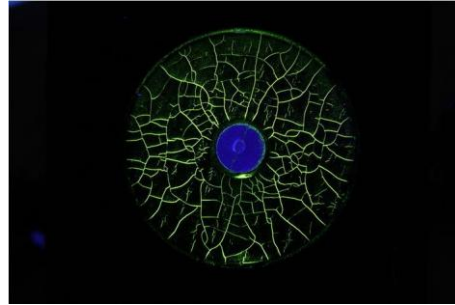
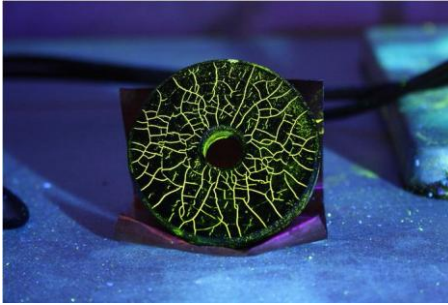
Using the wet residual method, the premagnetised part is immersed in the bath, removed, allowed to drain and then inspected. This method is generally less sensitive than the continuous method and is more susceptible to rapid particle depletion and bath contamination.



Typical Properties (not specification)

Property	20 B
Form	Brown solid
Colour under UV (365 nm)	Yellow/green
SAE sensitivity	7-8
Recommended concentration range	11.25 g / litre
Settling volume	0.2-0.35 ml
Temperature limit	48 °C
Mean particle size	6 microns

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Examples of 20B fluorescent indications on an ISO 9934 Type 1 reference block.

Bath Replenishment/Concentration Control

In use the magnetic content of any bath will become depleted.

To guard against this, the bath strength should be checked at make-up and at least once each day.

The most widely used method of control is by settling volume using a graduated ASTM pear shaped centrifuge tube. MAGNAFLUX P/N - T03005 is recommended for 20 B. 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. The settling volume indicates the amount of magnetic particles present in the bath. When mixed according to instructions, the bath settling volume after 30 minutes is 0.2 to 0.35 ml.

When the settling volume approaches the lower limit then additions of 14A magnetic particles can be made to the bath providing the bath liquid is still clean and uncontaminated.

If the bath appears contaminated or has been in use for any length of time, the contents should be replaced.

After inspection the components should be properly demagnetized before cleaning to ensure ease of particle removal.

Specification Compliance

- AMS 3044
- ASTM E709
- ASTM E1444
- ASME
- MIL-STD-2132
- MIL-STD-271
- NAVSEA 250-1500-1
- NAVSEA T9074-AS-GIB-010/271

Availability

20B is available in 1 kg containers, part number F03010

Health and Safety

- Safety Data Sheets for this product are available on request from your Magnaflux distributor or via the Magnaflux website (www.magnaflux.in).
- Read the relevant Safety Data Sheets before use.

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Product Data Sheet Magnaglo 20 B
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