Product Data Sheet

410HF Ready to use Fluorescent MPI Ink

General Description

410HF is an oil based ready to use fluorescent ink for wet method magnetic particle testing.
The ink is used in conjunction with suitable magnetising equipment and UV(A) source to locate medium surface and slightly subsurface discontinuities in ferrous materials.
Typical defects found include shrink cracks, welding defects, grinding cracks, quencing cracks and fatigue cracks.
410HF gives enhanced fluorescent green indications when viewed in a darkened area under UV(A) of peak wavelength 365nm.

Composition

410HF consists of a suspension of magnetic particles in a high flash petroleum distillate.

Method of Use

Components should be cleaned prior to testing to provide a suitable test surface.
The Ink can be applied by spraying, immersion or flooding.
The ink must be mixed thoroughly prior to use and must be kept agitated during testing.
Using the wet continuous method, the ink is applied to all surfaces of the component during magnetisation.
The indications will be formed during the application of magnetising current. The flow of ink must stop before the magnetising current otherwise there is a risk that the force of the ink application may wash away indications.

Using the wet residual method, the premagnetized 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.

Inspection of the component should take place in a darkened area under UV(A) of peak wavelenght of 365 nm. Indications if present will appear fluorescent green.

Typical properties (Not a specification)

Flashpoint	⇨	> 93°C
Temperature Range	⇨	5 - 50°C
Viscosity @ 38°C	⇨	< 3.0 cS
Settlement Volume	⇨	0.1 - 0.2 ml
Particle Size range	⇨	2 - 16 micron
Mean particle size	⇨	12 microns

Like all MAGNAFLUX materials, 410HF is closely controlled to provide unique batch to batch consistency & uniformity to assure optimum process control and inspection reliability.

Bath replenishment / Concentration control

When in use, the magnetic content of any ink will become depleted (Not applicable to aerosols)
To guard against this the ink strength should be checked at least once each day.
The most widely used method of control is by settlement volume using a graduated ASTM pear shaped centrifuge tube.
When the settlement volume approaches the lower limit then additions of Magnaflux MG 410 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, it should be replaced.

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

Specification compliance

BS 4069
ASME B & PV Code, Sec V
MIL-STD-2132
ASTM E 1444-94a
ROLLS ROYCE
ASTM E-709

410HF is available in 25 lt drums and 400 ml aerosols.

Safety

Safety data sheets for this product are available on request.

Avoid contact with skin and eyes.
Avoid breathing spray mists.
Wear suitable gloves and eye protection if there is a risk of skin or eye contact.

Envirocoustics Non Destructive Testing
El. Venizelou 7 & Delfon, Metamorfosi
14452 Athens, Greece
tel: +30 210 2846 801-4, fax: +30 210 2846 805
sales@envirocoustics.gr, www.envirocoustics.gr