

Product Data Sheet

7HF Ready to use MPI Ink

General Description

7HF is an oil based ready to use black ink for wet method magnetic particle testing. The ink is used in conjunction with suitable magnetising equipment to locate fine surface and slightly subsurface discontinuities in ferrous materials. Typical defects found include shrink cracks, welding defects, grinding cracks, quenching cracks and fatigue cracks. 7HF gives clear black indications when viewed in daylight.

Composition

7HF 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.

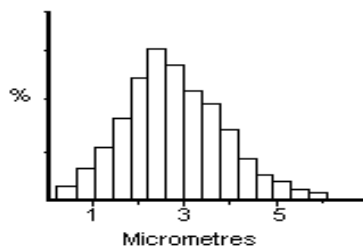
Using the wet residual method, the premagnetized part is immersed in the bath, removed, allowed to drain and then inspected. This method is generally less sensitive than the continuous method and is more susceptible to rapid particle depletion and bath contamination.

In situations where the test surface colour is dark, a thin coating of a suitable white contrast paint such as Magnaflux WCP-2, may be applied prior to testing to provide a contrasting background.

Typical properties (Not a specification)

Flashpoint	⇒	> 93°C
Temperature Range	⇒	5 - 50°C
Viscosity @ 38°C	⇒	< 3.0 cS
Settlement Volume	⇒	2.0 ml

Particle Size range ⇒



Like all MAGNAFLUX materials, 7HF 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 7C 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-271

MIL-STD-2132

ASTM E 1444-93

AMS-3041

ASTM E-709

AMS-3043

7HF is available in 4 x 5 lt packs 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.

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