Technical Data Sheet

LUMOR® J(HF)
LUMOR® J Aerosol

Fluorescent magnetic ink

1 General Description

Lumor® J(HF) and J Aerosol are ready-to-use fluorescent inks ideal for the inspection of ferromagnetic materials, structures and components by the magnetic particle inspection method.

Lumor® J(HF) and J Aerosol consist of finely-divided fluorescent magnetic particles, dispersed in a hydrocarbon carrier fluid which will fluoresce brilliant yellow/green under ultraviolet radiation with a predominant wavelength of 365 nanometer.

The particles have been selected for their high magnetic response, low coercivity (to avoid coagulation) and prolonged operational life.

Lumor® J(HF), J Aerosol and MPI Diluent HF use a hydrocarbon corresponding to the AMS 2641, Type 1 Magnetic Particle Inspection Vehicle with a flash point exceeding 93°C / 200°F.

The same product is available as bulk material, named Lumor® J(HF) and as aerosol called Lumor® J Aerosol.

Conformances

✓ ASME	Boiler & Vessel Code, Section V, Article 7
✓ ASTM	E-1444
✓ CEN	ISO 9934-2
✓ Rolls Royce	CSS231 (approval)
✓ SAE	AMS 3045 & 2641 Type 1

Ask your Chemetall representative for a complete list of approvals

2 Physical and Chemical Properties

Property	Unit	Typical Value	Test Method
Appearance	-	Suspension of brown powder	-
Particle size	µm	>98% less than 45 µm	ASTM E 11
Settlement	%	0.1 – 0.3	AMS 3045
Fluorescence coefficient	cd/W	1.2	EN ISO 9934-2
Flash point	°C / °F	>93 / >200	ASTM D93
Density	g/cm³	0.81 at 20°C / 68°F	volumetric

These are typical values only and do not constitute a specification.

3 Application

Lumor® J(HF) and J Aerosol are used for the detection of grinding or heat treatment cracks as well as forging bursts, laps, porosity, inclusions and other discontinuities in Ferromagnetic materials.

The surface of the component to be inspected should be cleaned prior to testing as any contamination on the component can mask any indication and contaminate the magnetic particle ink. Surface temperature should be between 0 and 75°C (30-165°F).

Chemetall expect more

Before pouring Lumor® J(HF), always shake the container vigorously in order to homogenize the powder concentration. Before use, the suspension of Lumor® J(HF) or the Lumor® J Aerosol must be agitated/shaken to ensure that the magnetic particles are maintained in suspension.

The ink can be applied by spray, flow-on or when residual magnetic field method is used by immersion. When the continuous magnetization method is used, the application of ink must be stopped before the magnetizing current is switched off to enable the particles to migrate to the area of flux leakage.

Indications appear brilliant yellow-green when viewed under UVA (black light) of peak wavelength of 365nm. Individual specifications may vary, but normal minimum viewing intensity is 1000 µW / sq cm at a distance of 35 – 45 cm / 15 - 18 inches from the component surface.

Note: the controlling specification must be referred to for levels of ambient light and UV light acceptable for inspection.

4 Effects on materials

When Lumor® J(HF) and J Aerosol are used in the prescribed manner, no significant corrosion will occur on ferrous materials. Equipment/tanks should be constructed of plastic or stainless steel.

5 Storage

Store in a cool place, protect from freezing conditions.

6 Safety guidance

Before operating the process described it is important that this complete document, together with any relevant Safety Data sheets, be read and understood.

7 Waste release

Any release shall respect all the applicable national and local regulation.

8 General information

Chemetall supplies a wide range of chemical products and associated equipment for cleaning, descaling, paint and carbon removal, metal working and protection and non-destructive testing. Sales Executives are available to advice on specific problems and applications.

Version 2 of March 2017

Head Office
Chemetall GmbH
Trakehner Straße 3
60487 Frankfurt am Main
Germany

T +49 69 7165 0
F +49 69 7165 3018
surfacetreatment@chemetall.com
www.chemetall.com