

LUMOR® J Powder

FLUORESCENT MAGNETIC PARTICLES

1 Description

Lumor® J Powder consists of finely divided fluorescent magnetic particles which will fluoresce brilliant yellow-green under ultraviolet radiation with a predominant wavelength of 365 nm. The particles have been selected for their high magnetic response, low coercivity (to avoid coagulation) and prolonged operational life.

Lumor® J Powder is used for the high-sensitivity detection of surface or near surface defects in ferro-magnetic materials.

Approvals

- ✓ ASME Boiler & Vessel Code Section V, Article 7
- ✓ CEN ISO EN ISO 9934-2
- ✓ SAE AMS 3044
- ✓ SAFRAN IN-5300

Ask your Chemetall representative for a complete list of approvals

2 Physical and chemical properties

Property	Lumor® J Powder	Unit
Appearance	Brown powder	-
Particle size (mean)	4 – 5	µm
Bulk density	Approx. 0.7 at 20°C / 68 °F	g/cm ³
Settlement	0.15 – 0.30 (prepared bath)	%

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

3 Preparation

Lumor® J Powder is used by mixing directly with a suitable carrier fluid, such as high flash point odorless kerosene. Alternatively, Lumor® J Powder may be added to water which has been conditioned using the water treatment compound HC-1.

In both cases, Lumor® J Powder is added at concentrations between 0.8 g/l up to 1.2 g/l, which will give approximate settlement volumes between 0.15 % and 0.30 %.

4 Method of Use

Heavy deposits of grease, rust, scale and paint should be removed prior to use. The surface of the components to be inspected should be cleaned prior to testing as any contamination on the component can mask indications and contaminate the magnetic particle ink.

Components are magnetized using the appropriate technique, whilst Lumor® J Powder ink is applied during magnetization. Application of the ink must be stopped before the magnetizing source is switched off to enable the particles to migrate to the area of flux leakage. Application of the prepared Lumor® J Powder may be by spray, flow-on or immersion.

The component surfaces should be inspected under UVA (black) light of minimum output of 1000 $\mu\text{W}/\text{cm}^2$ and peak wavelength of 365 nm. The ambient light should also be less than 10 lux.

Note: Specification may vary. Check concentration and UVA/ambient light as per the applicable specification.

5 Effects on materials

When Lumor® J Powder is used in the recommended manner, no significant corrosion is likely to be encountered on any metal.

Some thermoplastics and certain rubbers may be softened or swollen with prolonged contact and intending users are advised to check the compatibility of such materials with the product.

6 Storage

Store in a cool place, with protection from freezing conditions. Shelf life is 60 months.

7 Labor and environmental protection

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

All local and national regulations on the transport, storage, use and waste treatment of chemicals in concentrated or diluted form and as working solutions must be obeyed.

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 advise on specific problems and applications.

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