



# CGM CIGIEMME S.p.A.

Controlli Non Distruttivi - Non Destructive Testing

**Product Code**

Spray: 03087010

Cans: 02087000

**Ref. no.**

LK35S

LK35

**Product Data  
Sheet**

## READY-MADE SUSPENSION OF FLUORESCENT MAGNETIC PARTICLES – LK 35

### PRODUCT DESCRIPTION

LK 35 is a ready-to-use hydrocarbons-based black magnetic particle powder suspension for visible wet method magnetic particle testing. The magnetic particles' small size allows the use of this product on a wide range of surfaces, while ensuring excellent sensitivity. If applied together with the Vecoplast contrast paint, LK 35 guarantees an excellent color contrast even on dark surfaces, highlighting even the smallest discontinuities.

LK 35 is a product with low sulfur and halogen content, in compliance with applicable standards.

### COMPOSITION

Iron oxides with high magnetic permeability in hydro-refined and dearomatised petroleum distillate.

**N.B.:** Like all CGM products, the LK 35 magnetic powder is tightly controlled to ensure batch uniformity, optimal process ascertainment and control reliability.

### SPECIFICATIONS

- Excellent sensitivity.
- Excellent contrast.
- Excellent particle mobility.
- Long-lasting particles.
- Easily dispersible.

### PACKAGING TYPE

- 400 ml spray cans
- 10 L cans

### APPLICABILITY

Ideal for the detection of very fine and sub-surface discontinuities such as:

- Inclusions.
- Straw.
- Withdrawal cracks.
- Tears.
- Recalculations – Folding.
- Flakes.
- Welding discontinuity.
- Grinding cracks.
- Hardening cracks.
- Fatigue cracks.

In:

- Machined parts.
- Forging.
- Melting.
- Welding.

### INSTRUCTIONS FOR USE

**TIP:** always operate according to a procedure authorised by a 3<sup>rd</sup> level in Magnetic Particle Inspection.

- Ensure that the part to be inspected is clean



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- to avoid false indications and contamination of the magnetic suspension.
- During use, keep the magnetic suspension stirring to ensure bath uniformity.
- Apply the magnetic suspension as required depending on the method chosen.
- Apply the magnetising current to the part to be inspected.
- Then (even after a certain time) apply the magnetic suspension.
- Leave to drain.
- Inspect the workpiece under white light of the intensity required by standard/procedure.

## Continuous wet method

This is the method normally required by standards.

- Apply the magnetic suspension to all surfaces of the workpiece and simultaneously apply the magnetising current.
- Stop the application of the magnetic suspension before interrupting the current flow, so as not to wash away the indications.
- Leave to drain.
- Inspect the workpiece under white light of the intensity required by standard/procedure.

With use, the dust content of the magnetic suspension tends to decrease and it is therefore necessary to check the strength of the bath daily using the sedimentation glass tube or the reference block, as stipulated in the inspection procedure. The bath must be replaced when it appears contaminated.

After the inspection and before final cleaning, it is advisable to demagnetise the inspected part to the residual magnetisation value specified in the inspection procedure. This also ensures easier removal of residual magnetic powder particles.

## Residual magnetism wet method

This method is only allowed in certain cases. Refer to the standard to be applied.

## PROPERTIES AND PRODUCT COMPARISON

	LK 35	LK 755	LK 31-73
Colour	Black	Green	Green
Flash point ASTM D 93	>100°C	>100°C	>100°C
Average particle size EN ISO 9934-2	<1 µm	8 µm	3 µm
Density at 20° EN ISO 12185	0.830 g/cm <sup>3</sup>	0.830 g/cm <sup>3</sup>	0.830 g/cm <sup>3</sup>
Viscosity at 40°C EN ISO 3104	2.687 mm <sup>2</sup> /s	2.687 mm <sup>2</sup> /s	2.687 mm <sup>2</sup> /s
Sedimentation ASTM E1444	1.2 – 2.4 ml	0.10 – 0.20 ml	0.10 – 0.20 ml
Colour under UV light	NA	Yellow – Bright green	Yellow – Bright green

Typical values.



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## RECOMMENDATIONS FOR THE USER

NDT method	Magnetic Particle Inspection, wet method
Shelf life	3 years at a temperature between 5°C and 45°C, in a dry place out of direct sunlight
Usage temperature*	< 48°C
Preliminary cleaning	Velnet/Solnet
Contrast paint	Vecoplast
Recommended accessories according to standards ASTM E1444 ASTM E709 EN ISO 9934-2	Sedimentation glass tube – Magnetic stripe card type 2000 – Reference block type 1 (MTU) – Reference block type 2 – Flexible laminated strips – Tool Steel Ring type AS 5282 and type Ketos 01 – Octagonal plate

\* Complies with AMS 2641 up to a minimum temperature of 10°C.

## COMPLIANCE WITH STANDARDS

- ASME V Art. 7
- ASTM E709
- ASTM E1444
- EN ISO 9934-2
- AMS 3044
- AMS 3045
- AMS 2641
- PMUC (certificate of conformity on request)

## BENEFITS

- It forms clear indications.
- It maintains the performance of the magnetic suspension over long periods of time thanks to high-quality pigments with good particle adhesion.
- As it is ready-to-use, it does not require dilution, thus avoiding the risk of dosing errors.

## HEALTH AND SAFETY

Read all health and safety information before using this product. This information can be found in the Safety Data Sheet, available on request.

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