MG 601

Wet Method Fluorescent Magnetic Particles

MAGNAGLO® MG 601 is a powder concentrate are used to prepare fluorescent inks for high-sensitivity, wet method magnetic particle testing. The inks give clear bright yellow/green indications when viewed in a darkened area under UV(A) of peak wavelength 365 nm.

MG 601 can be suspended in either a petroleum-based vehicle (oil), such as MAGNAGLO® Carrier II, or in water and is a top-up for MAGNAGLO® MF-655 WB ink concentrate.

BENEFITS

Increases indication detection

- Find smaller, finer indications in critical applications with these highly sensitive particles.

Minimises inspection time

- Clear, bright indications form quickly with minimal background fluorescence.

Improve inspection consistency and reliability

- Maintain magnetic particle system performance over longer periods of time thanks to the highly-durable, easily-dispersed particles

FEATURES

- High sensitivity
- Excellent fluorescent contrast
- Excellent particle mobility
- Optimised particle size distribution
- Durable particles
- Easily dispersed

APPLICATIONS

Defect location: surface and slightly subsurface

Ideal for:

- Detecting very fine to fine discontinuities
- Critical applications
- Machined parts
- Smooth surface finish
- After secondary processing
- In-service inspections

Ideal for:

- Inclusions
- Seams
- Shrink cracks
- Tears
- Laps
- Flakes
- Welding defects
- Grinding cracks
- Quenching cracks
- Fatigue cracks

COMPOSITION

Compounded fluorescent pigment and magnetic iron oxide.

MG 601

SPECIFICATION COMPLIANCE

- AMS3044
- ASME BPVC-V
- ASTM E709
- ASTM E1444/E1444M
- EN ISO 9934-2
- KTA 3905
- MIL-STD-2132

PRODUCT PROPERTIES

Form and colour	Light-brown powder
SAE sensitivity	8 - 9
Particle size range	3 - 5 µm
Usage temperature	< 60°C
Settlement volume	0.1 - 0.3 ml

Like all Magnaflux materials, MG 601 is closely controlled to ensure batch-to-batch consistency, optimum process control and inspection reliability.

USER RECOMMENDATIONS

NDT Method	Magnetic Particle Testing, Fluorescent, Wet Method
Storage temperature	10°C to 30°C
Ink concentrate	MF-655 WB
Cleaner	SKC-S
Carrier	Carrier II or Water
Water conditioner	WA-1 and WA-2
UV lamp	EV6000, EV6500, ST700
Accessories	Centrifuge Tube

PREPARATION INSTRUCTIONS

Prepare the ink to the recommended concentration range of ~0.5 g/litre.

Oil-based ink

Combine the required amount of MG 601 with a suitable oil carrier, such as Carrier II. Mix thoroughly until the powder is fully dispersed (this can take up to 15 minutes).

Water-based ink

First, prepare your water carrier by mixing 10g of WA-1 per litre of water. Then add the required amount of MG 601 to the carrier and mix thoroughly until the powder is fully dispersed (this can take up to 15 minutes).

Bath replenishment

MG 601 can be used for bath replenishment and concentration control of MF-655 WB.

During use, the magnetic content of any ink will become depleted so you will need to check your bath strength at least once each day. The most widely-used way of checking an ink's settlement volume is by using a graduated ASTM pear-shaped centrifuge tube.

When the settlement volume approaches the lower limit, you can add more MG 601 powder to the bath as long as it is still clean and uncontaminated. If the bath appears contaminated, or if it has been in use for a long time, replace the contents.

MG 601

INSTRUCTIONS FOR USE

Clean the component before testing to reduce the risk of contamination and provide a suitable test surface.

Before using your ink, check it has the correct settlement volume of 0.1 - 0.3 ml. You will need to continually agitate the ink during use to ensure uniformity of mix.

Apply the ink by spraying, flooding or immersion, depending on your chosen method (see below):

Wet continuous method
Apply the ink to all surfaces of the component and apply a magnetising current. Remember to stop the flow of ink before the current is switched off, otherwise there is a risk that the force of the ink flood may wash away indications.

Wet residual method
This method is generally less sensitive than the continuous method and is more susceptible to rapid particle depletion and bath contamination.

- Pre-magnetise the part to be tested.
- Immerse the part in a bath of the ink.
- Remove it and allow it to drain.
- Inspect the part.

During use, the magnetic content of any ink will become depleted so you will need to check your bath strength at least once each day. The most widely-used way of checking an ink's settlement volume is by using a graduated ASTM pear-shaped centrifuge tube.

When the settlement volume approaches the lower limit, you can add more powder to the bath as long as it is still clean and uncontaminated. If the bath appears contaminated, or if it has been in use for a long time, replace the contents.

After inspection, remember to completely de-magnetise your components before cleaning, to ensure easy removal of any residual powder particles.

PACKAGING AND PART NUMBERS

1 Kg 061C026

Packaging for this product is made from recycled materials and is recyclable.

HEALTH AND SAFETY

Review all relevant health and safety information before using this product. For complete health and safety information, refer to the Safety Data Sheets, which are available at **www.magnaflux.eu**