

WB-27

Water-Based Visible Magnetic Particle Ink



MAGNAVIS® WB-27 is a liquid concentrate used to prepare water-based magnetic particle ink for visible wet method magnetic particle testing. WB-27 provides clear, strong indications, making it perfect for locating fine and medium discontinuities on finished parts.

WB-27 is often used with our WCP-2 white contrast paint to improve contrast and inspection sensitivity.

FEATURES

- Clear indications under visible light
- Heavy particle buildup
- Great particle mobility
- Protects parts and equipment against corrosion
- Superior surface wetting
- Very small particle size
- Works in visible light
- Water-based formula
- Very low toxicity
- Low odour

SPECIFICATION COMPLIANCE

- AMS3042
- ASME B & PV Code, Sec V
- ASTM E709
- ASTM E1444/E1444M
- EN ISO 9934-2
- GOST R ISO 9934-2-2011
- MIL-STD-271F
- MIL-STD-2132D
- NAVSEA 250-1500-1
- SAE AS4792

APPLICATIONS

Defect location: surface and slightly subsurface

Ideal for:

- Detecting fine and medium discontinuities
- Field testing
- Spot inspections
- In-service inspections
- Machined parts
- Light surfaces
- Difficult-to-reach areas

Ideal for:

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

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COMPOSITION

A mixture of black magnetic powder, a wetting agent, a defoamer and a corrosion inhibitor.

PRODUCT PROPERTIES

Form and colour	Black liquid
SAE sensitivity	6 - 7
Particle size range	0.2 - 2.0 µm
Desnity	1.4 g/cm ³
pH (2% solution)	9.0

Like all Magnaflux materials, our visible magnetic inks are closely controlled to ensure batch-to-batch consistency, optimum process control and inspection reliability.

USER RECOMMENDATIONS

NDT Method	Magnetic Particle Testing, Visible, Wet Method
Storage temperature	10°C to 50°C
Usage temperature	5°C to 80°C
Suspension Vehicle	Water
Water Bath Additive	WA-1 water conditioner WA-2 antifoam
Cleaner/remover	SKC-S
Accessories	Centrifuge Tube

INSTRUCTIONS FOR USE

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

If the test surface is a dark colour, apply a thin coating of a suitable white contrast paint, such as WCP-2, to provide a contrasting background.

If using WB-27, make up the ink bath based on the guide volumes below:

Quantity of WB-27	Quantity of water
0.5 litres (500 ml)	25 litres
0.75 litres (750 ml)	37.5 litres
1 litre (1,000 ml)	50 litres

Before using, agitate the ink to ensure uniformity of mix and check it has the correct settlement volume (1.5 - 2.4 ml).

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.

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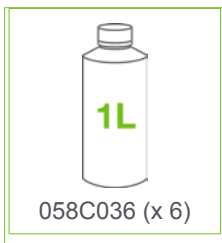
Remember to agitate the ink regularly during use to ensure uniformity of mix. If you are using a bath and it appears contaminated, or if it has been in use for a long time, replace the contents.

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.

If the settlement volume approaches the lower limit (1.5ml), you can add more WB-27 to the bath as long as it is still clean and uncontaminated.

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

PACKAGING AND PART NUMBERS



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 eu.magnaflux.com.