



CGM CIGIEMME S.p.A.



Controlli Non Distruttivi - Non Destructive Testing

Product Code
02041900

Ref. no.
F3.68/3

**Product Data
Sheet**

MAGISGLOW 3

PRODUCT DESCRIPTION

Magisglow 3 is a highly sensitive fluorescent penetrant that can be washed in water. It can be used in a wide range of applications, providing excellent penetration characteristics and excellent reliability in the detection of open surface defects with defect dimensions detectable using a Level 1 penetrant.

COMPOSITION

A mixture of organic fluorescent dyes, surfactants and super-refined petroleum distillates.

N.B.: As with all CGM materials, water-washable fluorescent penetrants are tightly controlled to ensure batch uniformity, optimal process ascertainment and control reliability.

SPECIFICATIONS

- Excellent penetration characteristics.
- Intense and extremely bright colour.
- Excellent resolution of discontinuities.
- Wide range of applications.
- Excellent washability.

PACKAGING TYPE

- 10 L cans
- 200 L metal drums

APPLICABILITY

It can be used on all metallic materials, including alloys (steel, aluminium, titanium, etc.), for the detection of open discontinuities on the surface.

It is ideal for:

- Melting.
- Forging.
- Parts with low surface roughness.
- Straw.
- Folding.
- Cold shots.
- Cracks.
- Delamination.
- Porosity.

NOTE: Inspection of plastic materials with this type of penetrant is not recommended, as the material under inspection may be stained, softened or even dissolve during the test.

INSTRUCTIONS FOR USE

- Ensure that the surface under inspection is clean, dry and free of oil, grease and other contaminants.
- Apply the penetrant by dipping, brushing, conventional spraying or electrostatic spraying. Completely cover the area to be inspected.
- Wait for the expected penetration time. The



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penetration time is primarily a function of the type of discontinuity to be detected and is specified by the relevant standard. Remember, however, that the minimum dwell time of the penetrant is about 10 minutes. A penetration time of 20 minutes is recommended, as this is adequate for most situations. However, it is suggested that reference be made to the company's standards or those to be applied.

- Remove excess penetrant from the surface using clean water in the temperature range of +10°C to +38°C for no longer than 2 min. and with a pressure not exceeding 280 kPa. This operation must be performed under a UV lamp to verify the effectiveness of the removal.
- Dry the part under inspection by placing it in a controlled recirculating air dryer at a temperature below +70°C, or with a classic hair dryer held at a distance of about 300 mm from the surface under examination, for the minimum time necessary and never more than 30 min.
- Apply one of our following developers to maximise the sensitivity of the penetrant and provide a contrasting white background:
 - **Velcontrast – dry powder**
 - **Rotrivel U – solvent-based**
 - **Rotrivel H₂O Paste – water-based**
- Allow a minimum development time of 10 minutes before inspection. In any case, it is recommended to refer to the company standards or those to be applied.
- Inspect the workpiece using a suitable UV lamp with the required light intensity value. Any indications will emit a bright yellow-green fluorescence.
- At the end of the inspection, developer and penetrant residues can be removed by wiping the surface with a cloth, washing with water or using **Velnet/Solnet**.

PRODUCT PROPERTIES

	Magisglow 1	Magisglow 3	Magisglow 9	Magisglow 17	Magisglow 30
Class AMS 2644 EN-ISO 3452	Type I Method A	Type I Method A	Type I Method A	Type I Method A	Type I Method A
Appearance	Yellow-green Liquid	Yellow-green Liquid	Yellow-green Liquid	Yellow-green Liquid	Yellow-green Liquid
Flash point ASTM D 93-A	> 100°C	> 100°C	> 100°C	> 100°C	> 100°C
Density at 20° EN-ISO 3452	0.87 g/cm ³	0.87 g/cm ³	0.87 g/cm ³	0.87 g/cm ³	0.87 g/cm ³
Water tolerance AMS 2644 / EN-ISO 3452	> 5%	> 5%	> 5%	> 5%	> 5%
Kinematic viscosity at 40°C ASTM D 445	5,989 mm ² /s	5,693 mm ² /s	5,867 mm ² /s	5,941 mm ² /s	6,015 mm ² /s
Sensitivity AMS 2644	Level 0.5 Very low	Level 1 Low	Level 2 Medium	Level 3 High	Level 4 Very high
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Typical values.



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RECOMMENDATIONS FOR THE USER

NDT method	Water-washable Fluorescent Penetrant Inspection
Usage temperature	From -4°C to +52°C ASTM E165/EN ISO 3452-1
Preliminary cleaning	Velnet/Solnet
Recommended penetration time*	10 to 20 min.
Recommended removal time (with water)**	30 sec. to 2 min.
Developer	Rotrivel U – Velcontrast Dry Powder – Rotrivel H ₂ O Paste
Final cleaning	Water – Velnet/Solnet – Detergent H ₂ O
Coverage	20-30 m ² for litre
Shelf life	3 years at a temperature between 5°C and 45°C, in a dry place out of direct sunlight
Accessories EN ISO 3452	Type 1 reference blocks Type 2 reference blocks
UV lamp EN ISO 3059	Labino

* The times indicated refer to working temperatures between 10 and 52°C, for temperatures between 4 and 10°C the times indicated must be doubled.

** The times indicated vary depending on the water temperature (10-38°C), the type of finish of the part to be inspected and the size of the defects to be detected.

COMPLIANCE WITH STANDARDS

- ASME BPVC-V
- ASTM E165/E165M-18
- ASTM E1417/E1417M
- EN ISO 3452-2
- AMS 2644 (Complies with the standard, but not included in the QPL list)
- PMUC (certificate of conformity on request)

- Facilitated inspection and evaluation process.
- Easily removable with water due to excellent washability.
- Reduced background fluorescence even on rough surfaces.
- In automatic spraying systems, it does not clog up the nozzles, reducing maintenance time.

BENEFITS

- Easy to spray.
- Good detection of discontinuities.
- Easy to apply due to high wettability.

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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