



CGM CIGIEMME S.p.A.



Controlli Non Distruttivi - Non Destructive Testing

Product Code
02032800

Ref. no.
F3.64/54

**Product Data
Sheet**

MAGISGLOW 54

PRODUCT DESCRIPTION

Magisglow 54 is a post-emulsifiable fluorescent penetrant with excellent penetration characteristics and excellent resolution in the detection of open discontinuity indications on the surface with detectable sizes from Level 4. This penetrant is designed to be removed with a hydrophilic, lipophilic or solvent emulsifier.

COMPOSITION

Mixture of organic fluorescent dyes and super-refined petroleum distillates.

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

SPECIFICATIONS

- Excellent penetration characteristics.
- Intense, contrasting colour.
- Very bright indications.
- Minimal background fluorescence.
- Wide range of applications.
- Not miscible with water, therefore protected against excessive removal during washing.
- High flash point.
- Wide range of application methods.
- Low odour.
- Compatibility with different types of metal alloys.

PACKAGING TYPE

- 10 L cans
- 200 L metal drums

APPLICABILITY

Ideal for detecting small discontinuities, such as:

- Cracks.
- Porosity.
- Delamination.
- Sheets.
- Folding.
- Small open discontinuities in general.

In:

- Melting.
- Forging.
- Welding.
- Laminating.
- Machined parts.
- Parts for aeronautical use.

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, with a brush or



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by conventional or electrostatic spraying. Completely cover the area to be inspected.

- Wait for the expected penetration time. The penetration time is primarily a function of the type of discontinuity to be detected and the working temperature 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 advisable, as this is adequate for most situations. In any case, it is advisable to refer to the company standards or those to be applied.
- Pre-wash the surface under inspection with tap water. This pre-wash removes most of the excess penetrant and significantly decreases the emulsification time.
- Apply the hydrophilic emulsifier by spraying or dipping.
- Allow to act for the specified emulsification time (the emulsification time is experimental and is generally between 30 sec. and 2 min.).
- Wash with a jet of water.

NOTE: Pre-wash water, after suitable treatment, can be reused for other pre-washes. Final wash waters may not be discharged into watercourses or sewers without some form of treatment, as required

by national standards. If necessary, CGM can recommend suitable equipment for this purpose.

- Dry the workpiece 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 inspection, 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 advisable 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**.

COMPLIANCE WITH STANDARDS

- ASME Sect. V Art. 6
- ASTM E165
- EN ISO 3452-2
- AMS 2644 (Complies with the standard, but not included in the QPL list)
- PMUC (certificate of conformity on request)

BENEFITS

- It can be used to inspect a wide variety of high-value components without fear of corrosion.

- It provides clear and bright indications that are easier to detect.
- Reduced background fluorescence.
- It cannot be removed with water (unless combined with an emulsifier) to prevent over-washing.

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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PRODUCT PROPERTIES

	Magisglow 22	Magisglow 27	Magisglow 46	Magisglow 54
Class AMS 2644 EN-ISO 3452	Type 1, Method B, C, D	Type 1, Method B, C, D	Type 1, Method B, C, D	Type 1, Method B, C, D
Appearance	Yellow-green clear solution	Yellow-green clear solution	Yellow-green clear solution	Yellow-green clear solution
Flash point ASTM D 93-A	> 100°C	> 100°C	> 100°C	> 100°C
Density at 20°C EN-ISO 3452	0.90 g/cm ³	0.90 g/cm ³	0.90 g/cm ³	0.90 g/cm ³
Kinematic viscosity at 40°C ASTM D 445	7,944 mm ² /sec	8,127 mm ² /sec	8,868 mm ² /sec	9,196 mm ² /sec
Sensitivity AMS 2644	Level 1 Low	Level 2 Medium	Level 3 High	Level 4 Very high
Sensitivity EN-ISO 3452	Level 1 Low	Level 2 Medium	Level 3 High	Level 4 Very high

Typical values.

RECOMMENDATIONS FOR THE USER

NDT method	Post-emulsifiable Fluorescent Liquid 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.
Emulsifier	Velemulsior
Developer	Rotrivel U – Velcontrast Dry Powder – Rotrivel H ₂ O Paste
Final cleaning	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.

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