MR® CHEMIE
NDT-MATERIALS

Powered by 3AK

Dye Penetrant Testing

Product Data Sheet

MR®70I

AMS DEVELOPER

(Non-Aqueous)

The Method

Dye penetrant testing (DPT) is a non-destructive inspection method used to detect surface flaws in materials. The process begins with surface cleaning to remove contaminants. A penetrant dye is then applied, allowed time to seep into any surface defects, and excess dye is removed. A developer is then applied, drawing the penetrant out of the flaws, making them visible against the background. The inspection can be conducted under UV light or with a contrasting colored dye, enhancing visibility. This method is effective for detecting cracks, porosity, and other defects in non-porous materials like metals, plastics, and ceramics. DPT is widely used in industries such as aerospace, automotive, and manufacturing for quality assurance purposes.

Description

MR®70I is an advanced ultra-bright, non-aqueous based developer designed to enhance the inspection process for non-destructive testing (NDT) applications creating a uniform, opaque white background. This developer facilitates the visualisation of indications by drawing out penetrant from surface flaws, cracks, and discontinuities in various materials, including metals, plastics, ceramics, and composites. Its innovative formulation ensures rapid and uniform coverage, enabling quick and accurate interpretation of inspection results.

It offers excellent sensitivity, revealing even the smallest defects with clarity. Its non-aqueous nature makes it ideal for use in environments where water-based developers are not suitable or practical. MR®70I is easy to apply and provides consistent results, enhancing efficiency and reliability in flaw detection processes.

With its exceptional performance and versatility, MR®70I is widely used across industries such as aerospace, automotive, manufacturing, and engineering, meeting the stringent quality standards required for critical inspections.

MR®70I is listed on QPL-AMS-2644.



Benefits

- Reliable, easy to use
- Bright white, optimally covers underlying surface cover
- Excellent spray pattern
- Easy removability of developer after application
- Optimal colour contrast for clear indications
- Versatility across various materials
- Enhances quality assurance processes
- Meets and exceeds most industry standards

Features

- Ultra-bright white
- Controlled/Optimal Bleed-out with all compatible penetrants
- Fast dry - optimal
- Instant Indications, features excellent reverse-capillary action
- Excellent Surface finish, matte
- Very Low toxicity
- NPE free. Contains no aromatic compounds.

Applications

Defect Location: Surface Cracks

Test Surface Type: All Types

Defect Types: All Types

Compatibility:

Ideal for: MR®62, MR®311-R (Visible)

**Check compatibility for other visible and fluorescent penetrants with manufacturer before use.*

Usage Instructions

NDT Method	Dye Penetrant Testing, visible and/or fluorescent
Form	D/E
Recommended Usage	+5°C to +52°C 41°F to 125°F

Compliances

QPL SAE AMS 2644

ASME Code V, Art. 6

DIN EN ISO 3452

ASTM E165

ASTM E1417

NPCIL

Physical & Chemical Properties

Appearance	White suspension in clear liquid
Chemical Composition	White pigments, Solvents
Basis	Solvent
Colour in visible light	Bright White (suspension form)
Colour in UV light	Non-fluorescence
Odour	Characteristic - solvent like

Suggested Products

MR®79 - Special Cleaner (Non-Aqueous)

MR®85 - Remover (Non-Aqueous)

MR®62 - Solvent Removable Penetrant (red)

MR®311-R - Solvent & Water Removable Penetrant (red)

Safety

Dye Penetrant Inspection (DPI) is generally safe when conducted by trained professionals who follow appropriate safety measures.

Wear the appropriate safety gears while using the product. Use in a well-ventilated area.

Please read the Material Safety Data Sheet before use!
(Available at: https://www.3akchemie.com/resources-mrchemie)

Scan To Download
TDS / MSDS / TC

Ingredients: 2-Hydroxypropane, Acetone

Storage Temperature: 41°F to 113°F / +5°C to +45°C

Notice

3AK Chemie makes no warranties expressed or implied, including, but not limited to, any implied warranty of merchantability or fitness for a particular purpose. User is responsible for determining whether our product is fit for a particular purpose and suitable for users method of application.

Limitation of Remedies & Liabilities

If this product is proved to be defective, the exclusive remedy at 3AK CHEMIE's option shall be to refund the purchase price or to repair or to replace the defective MR® CHEMIE product. The company shall not otherwise be liable for loss or damages, whether direct or indirect, special, incidental or consequential regardless of the legal theory asserted including negligence, warranty or strict liability.

Packaging & Order Instructions

SKU	Pack Size	Case
2511-0006	Aerosol - 400ml	10
2511-0045	Bulk- 1L	6
2511-0073	Bulk - 5L	-

Manufactured & Marketed by:
3AK Chemie Pvt. Ltd.
5/B5/1 - TSIIC Automotive Park,
Kallakal, Telangana - 502336, India
Email: sales@3akchemie.com
Website: www.3akchemie.com
under license from: MR Chemie GmbH, Germany

The above details have been compiled to the best of our knowledge on the basis of tests and research work and with regard to the current state of our practical experience. This technical product information is non-binding. No liabilities or guarantees deriving from or in connection with this leaflet can be imputed to us. Statements relating to possible uses of the product do not constitute a guarantee that such uses are appropriate in a particular user's case or that such uses do not infringe the patents or proprietary rights of any third party. The reproduction of any or all of the information contained in this leaflet is expressly forbidden without 3AK Chemie's prior written consent.

© 2024 3AK Chemie Pvt. Ltd. All rights reserved. MR® is a registered trademark of MR® Chemie GmbH, Germany.