# Penetrant Testing

## *Product information*
## *MR® 62 Penetrant red (AMS 2644) Method C*

MR® CHEMIE NDT-materials

### PRODUCT DESCRIPTION

- Classic red dye penetrant according to EN ISO 3452-1 and ASTM E1417
- Listed on QPL SAE AMS 2644 (QPL)
- Type II according to EN ISO 3452-2
- Type 2 Method C according to EN AMS 2644, solvent removable
- Easy removing
- High red indication performance
- Free of NPe and Phthalate
- High surface wetting
- Aerosol can is overhead sprayable - 360°
- Suitable for all metals (suitability for plastics and ceramics needs testing prior to use)

### PRESENTATION ON ASTM TEST BLOCK 30µm

*solvent removable*

### PRODUCT CHARACTERISTICS

| | | |
|---|---|---|
| Form: | | liquid |
| Colour: | | dark red |
| Basis: | | oil |
| Flash point (bulk): | | 103 °C |
| Density | 20°C: | 0,892 g/cm³ |
| | 38°C: | 0,878 g/cm³ |
| Kinematic viscosity | 20°C: | 18,600 mm²/s |
| Dynamic viscosity | 38°C: | 8,400 m Pas or cSt |
| Sensitivity: | | high |
| Surface wetting: | | good |
| Removability from surface: | | easy |
| Propellant (aerosol can): | | propane/butane |
| Odour: | | characteristic |

### APPROVALS/SPECIFICATIONS

| | |
|---|---|
| EN ISO 3452-2 | √ |
| AMS 2644 | √ |
| QPL SAE AMS 2644 | √ |
| ASTM E1417 | √ |
| ASTM E165 | √ |
| ASME Code V, Art. 6 | √ |
| ASME | √ |
| RCC-M | √ |

Low content of halogens and sulphur according to EN ISO 3452-2 and ASME Code, Section V, Article 6, T-641

### FAMILY TESTING

**acc. to EN ISO 3452-2:**

- System **IICe**
  Remover: MR® 79, MR® 88
  Developer: MR® 70 I

**acc. to SAE AMS 2644 / ASTM 1417:**

- Type 2 - Method C
  Remover: MR® 79, MR® 88
  Developer: MR® 70 I

### MINIMUM SHELF LIFE

- Bulk: 4 years, stored at storage temperature
- Aerosol: 3 years, stored at storage temperature

### TEMPERATURES

- Storage: +5 - +45°C
- Usage: +4 - +52°C

### FURTHER INFORMATION

- Process description according to EN ISO 3452-1 available on request or on www.mr-chemie.de.
- Process description according to ASTM E1417 see page 2.

### DELIVERY FORM


*(1 box = 12 cans)*



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www.mr-chemie.de

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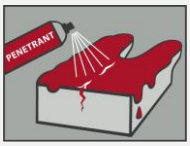
## *MR® 62 Penetrant red (AMS 2644) Method C*

## Process description according to ASTM E1417

### SURFACE PREPARATION:


The surface to be examined shall be clean, dry and free of all material that could prevent the penetrant from entering discontinuities. One or more cleaning methods such as solvent cleaning, vapor degreasing, ultrasonic cleaning, aqueous-based cleaning can be used. Chemical or Mechanical cleaning shall be done if necessary.

### PENETRANT APPLICATION:




Type 2 - Method C:
MR® 62 Penetrant red (AMS 2644) - solvent removable

Type 2 - Method A/C:
MR® 311-R Penetrant red (AMS 2644) – water washable / solvent removable

Application:
By spraying, dipping, brushing or other method to provide coverage

Penetrant dwell time*:
Minimum 10 min. for temperatures between 50 and 125 °F (10 to 52 °C)
Minimum 20 min. for temperatures between 40 and 50 °F (4 to 10 °C)

### PENETRANT REMOVAL:

Method A:
With water

Water-washable penetrants shall be removed with a manual or automated water spray, or a manual wipe, or an air agitated immersion wash.

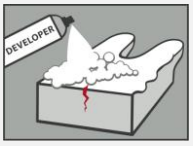

Method C:
With MR® 79 Remover (AMS 2644) – Class 2 - Solvent
With MR® 88 Remover (AMS 2644) – Class 2 - Solvent

Water-washable or Solvent-removable penetrants shall be removed by first wiping the excess penetrant with a clean, dry cloth, then the remainder of the surface penetrant is removed with a solvent-dampened cloth or towel.

### DRYING:

The components shall be dried prior to the application of non-aqueous developer.

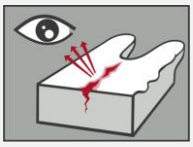
### DVELOPING




MR® 70 I Developer (AMS 2644) - Form e shall be applied over the entire surface to form a uniform white coating.

Development time*: Minimum: 10 min. / Maximum: 60 min.

### EXAMINATION



Daylight: Examination surface shall be minimum 100 fc (1076 lx).
All components shall be interpreted before the maximum developing time.

If necessary: recording, post-cleaning and protection

**unless otherwise specified*



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