



Penetrant Professor Approved

Product Data Sheet

# R-502 High Temperature Penetrant Remover

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Met-L-Chek Company manufactures a complete line of removers used in the fluorescent (**Type 1**) and visible (**Type 2**) dye penetrant inspection process. Met-L-Chek Company high temperature remover, **R-502**, is qualified to **Mil-I-25135** as a special application remover and is sold under the **Met-L-Chek®** and **Pen-Chek®** trademarks. Met-L-Chek Company products are manufactured under license in The Netherlands by NDT Europa.

**R-502** is a special application high temperature inspection penetrant remover used as a Method C remover. It is used with high temperature visible penetrant **VP-302**. The use range is **51.6 °C - 176.6 °C (125°F -350°F)**. **R-502** is applied to a cloth and used to wipe remove the penetrant from the inspection surface. On smooth surfaces the penetrant may wipe off readily, but on rougher surfaces the use of the remover helps to reduce the background color. This makes the actual flaw indications easier to see.

**R-502** is listed on the approved products list for **Mil-I-25135C** It is low in Sulfur, Chlorine, Fluorine and other Halogens, making it safe for use on Titanium and high Nickel alloys found in nuclear components.

**R-502** finds wide use in field weld and weld repair inspection. It is used in the inspection of refinery processing equipment that is at elevated temperatures, speeding up the inspection process time by eliminating the cool down required for standard penetrant processing.

Protective gloves should be worn while working on hot surfaces to avoid burns.

## Guide to METHOD "C" wipe off processing

1. Part must be clean, dry and at a temperature of 52°-177°C (125°- 350°F) before penetrant is applied. Test surface temperature by applying a small drop of penetrant on the part surface. If the color turns brown to black in a minute the surface is too hot to inspect. Allow to cool until red color persists.
2. Apply **VP-302** penetrant using spray or wipe on.
3. Wait a minimum of 1-5 minutes for penetrant to thin and enter flaws.
4. Using **R-502** high temperature remover on wiping media, wipe off surface penetrant.
5. Spray on thin even film of **D-702** high temperature developer.
6. Wait a minimum of 1-5 minutes before inspection. On higher temperature surfaces color may begin to fade with prolonged time. Use illumination of >1100 lux/m<sup>2</sup> (>100 foot candles) to inspect.



R-502 high temperature penetrant remover



High temperature penetrant **VP-302** crack indication on **D-702** developer film.



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# R-502 High Temperature Penetrant Remover

## Typical Physical Properties

Form: Clear viscous liquid  
 Density: 1002g/L  
 Flash Point: > 93.3°C (> 200°F)  
 Corrosion of aluminum: none  
 Corrosion of carbon steel: none  
 Corrosion of magnesium: none  
 Corrosion of stainless steel: none  
 Corrosion of titanium: none  
 Chloride content: < 200 ppm (0.02%)  
 Fluoride content: < 50 ppm (0.005%)  
 Sulfur content: < 200 ppm (0.02%)  
 Mercury: none  
 VOC's: 0g/L  
 Ozone layer depleting substances: none  
 PCB's: none

The warranty shelf life of the product is 3 years from date of batch approval.

## Specifications

ASME B & PV code sec V ASTM E-165  
 ASTM E-1417 ISO-3452  
 Mil-I-25135C, Interim AM-4  
 NAVSEA-250-1500-1, Rev17, ACN-5

## Product Availability

1 pint (0.47L) metal can with dauber  
 1 gallon (3.7L) plastic jug  
 5 gallon (18.9L) plastic jug



## GHS Information



**Danger**

**GHS: Hazard Statements:**  
**H315:** Causes skin irritation.  
**H318:** Causes serious eye damage.  
**H412:** Harmful to aquatic life with long lasting effects.

### GHS Precautionary Statements:

**P102:** Keep out of reach of children.  
**P261:** Avoid breathing fumes/gas/mist/vapors/spray.  
**P264:** Wash skin thoroughly after handling.  
**P271:** Use only outdoors or in well-ventilated area.  
**P273:** Avoid release to the environment.  
**P280:** Wear protective glove/clothing/eye protection/face protection.  
**P284:** In case of inadequate ventilation wear respiratory protection



### GHS Response Statements:

**IF INHALED:** Remove person to fresh air and keep comfortable for breathing, get medical advice/attention if you feel unwell.  
**IF ON SKIN:** Wash with plenty of water. If skin irritation occurs, get medical advice/attention.  
**IF IN EYES:** Rinse cautiously with water for several minutes. Remove contact lenses, if present and easily to do. Continue rinsing, get medical attention.  
**IF SWALLOWED:** Immediately call a poison center/doctor/physician. Do Not induce vomiting  
**IF ON CLOTHING:** Take off contaminated clothing and wash before reuse.

### Transport:

DOT- not regulated < 450 L or 119 Gal containers  
 IATA- not regulated  
 IMDG- not regulated

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