



Penetrant Professor Approved

## Product Data Sheet

# R-502 High Temperature Penetrant Remover



Met-L-Chek manufactures a complete line of removers used in the fluorescent (**Type 1**) and visible (**Type 2**) dye penetrant inspection process. Met-L-Chek 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.

**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.

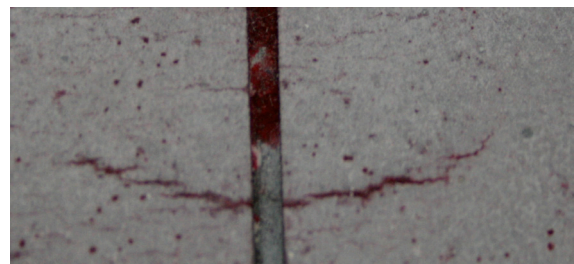
Protective gloves should be worn while working on hot surfaces to avoid burns.

### 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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## 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

## Product Availability

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

## Specifications

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



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