



Penetrant Professor Approved

Product Data Sheet

1
10/2015

D-702 High Temperature Developer



Met-L-Chek Company manufactures a complete line of developers used in the fluorescent (**Type 1**) and visible (**Type 2**) dye penetrant inspection process. Met-L-Chek Company high temperature developer, **D-702**, is qualified to **Mil-I-25135** as a special application developer 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.

D-702 is a special application high temperature inspection developer, form “F”, used with high temperature visible penetrant **VP-302** to enhance detection of surface cracks and porosity on hot surfaces. The use range is **51.6 °C - 176.6 °C (125°F -350°F)**. **D-702** is applied after the surface penetrant has been removed. **D-702** is applied by spraying, either from a portable compressed gas spray pack or by conventional spray gun. The developer consists of absorbent powder suspended in a volatile solvent blend. **D-702** dries quickly and produces a thin white film, which is easily removed with water after inspection. This type of developer contains flammable solvents and should not be used in confined spaces or near open flames or sparks. The use on hot surfaces does not pose a significant fire hazard in the open air.

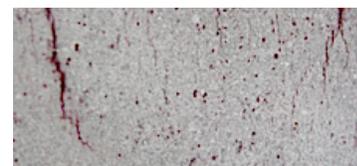
D-702 is listed on the approved products list for **Mil-I-25135C** It is low in Sulfur, Chlorine, Fluorine and other Halogens, making it safe for use on Titanium and high Nickel alloys found in nuclear components.

D-702 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 total cool down required for standard penetrant.

Operator must take precautions when working on hot surface to prevent burns. Protective gloves are recommended.

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.



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

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/m² (>100 foot candles) to inspect.



Portable spray packs for applying **D-702** high temperature developer.





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Typical Physical Properties

Form: hazy liquid
 Density: 950g/L
 Flash Point: > 11.6°C (>54°F)
 Fluorescence: none
 Dry Coating: thin white film
 Removability with water: complete
 Corrosion of aluminum: none
 Corrosion of carbon steel: none
 Corrosion of magnesium: none
 Corrosion of stainless steel: none
 Corrosion of titanium: none
 Chloride content: < 100 ppm (0.01%)
 Fluoride content: < 50 ppm (0.005%)
 Sulfur content: < 200 ppm (0.02%)
 Mercury: none
 VOC's: 0 g/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 (0.473L) metal can
 1 gallon (3.7L) metal can
 5 gallon (18.9L) metal pail



GHS Information



Danger

GHS: Hazard Statements:
H225: Highly flammable liquid and vapor.
H319: Causes serious eye irritation.
H336: May cause drowsiness or dizziness

GHS Precautionary Statements:

P102: Keep out of reach of children.
P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233: Keep container tightly closed.
P261: Avoid breathing fumes/gas/mist/vapors/spray.
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: Rinse mouth, Do Not induce vomiting, get medical attention if feeling unwell.
IF ON CLOTHING: Take off contaminated clothing and wash before reuse.

Transport:
 DOT -UN 1219, Isopropanol, class 3, , packing group II, .

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