



Penetrant Professor Approved

Product Data Sheet

VBP-300

Visible Penetrant

1
11/2015



Met-L-Chek Company manufactures a complete line of penetrants used in the fluorescent (Type 1) and visible (Type 2) dye penetrant inspection process. All Met-L-Chek Company penetrants are qualified to AMS-2644 and are 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.

VBP-300 is a visible (Type 2), water washable (Method A) and solvent removable (Method C) inspection penetrant. It is designed for use in general metalworking, welding, nuclear and automotive applications for surface flaw detection. VBP-300 has found wide use in the inspection of food and dairy processing equipment. Visible penetrants are not rated by sensitivity levels per AMS-2644 but are considered approximately to level 1 fluorescent penetrants. 50µ discontinuities are readily detected and under controlled conditions 30µ size defects may be highlighted by visible penetrants. ISO-3452 does rate visible penetrants by sensitivity level with #2 being the most sensitive. VBP-300 is a level 2 per this specifications requirements.

VBP-300 is listed on the Qualified Products List for AMS-2644. It meets the requirements of ASME Boiler and Pressure Vessel Code Section V, ASTM E-165, ASTM E-1417, and ISO- 3452 for penetrant inspection materials. It is low in Sulfur, Chlorine, Fluorine and other Halogens, making it safe for use on Titanium and high Nickel alloys found in medical and nuclear components.

VBP-300 is an oil and solvent, VOC free, biodegradable penetrant

Guide to METHOD "A" processing per
ASTM E-1417

Guide to METHOD "C" wipe off processing per
ASTM E-1417

1. Part must be clean, dry and at a temperature of 4.4°-52°C (40°- 125°F) before penetrant is applied.
2. Apply VBP-300 penetrant using spray, immersion, or wipe on.
3. Wait a minimum of 10 minutes; 20 minutes if temperature is 4.4°-10°C (40-50°F).
4. Wash part; water temperature 10°-38°C (50°-100 °F). Water pressure < 275kPa (< 40 psi); if a hydro-air nozzle is used limit pressure to < 172kPa (< 25 psi). Distance > 30cm (> 12 inches). Wash time- only long enough to remove surface penetrant under white light.
5. Dry part, time - only long enough to dry surface.
6. Apply non-aqueous developer D-70 by spraying. If water based developers D-78B is used it is applied by immersion or spray, prior to step 5 drying.
7. Wait a minimum of 10 minutes before inspection.
8. Use lighting of 1100 lux/m2 (100 footcandles) minimum.

1. Part must be clean, dry and at a temperature of 4.4°-52°C (40°- 125°F) before penetrant is applied.
2. Apply VBP-300 penetrant using spray, immersion, or wipe on.
3. Wait a minimum of 10 minutes; 20 minutes if temperature is 4.4°-10°C (40-50°F).
4. Moisten cloth with remover E-59, E-59A, R-503- or R-504 and wipe penetrant from surface. Do not spray remover on surface to remove penetrant, as sensitivity will be impaired.
5. Apply nonaqueous developer D-70, by spraying.
6. Wait a minimum of 10 minutes before inspection.
7. Use lighting of 1100 lux/m2 (100 footcandles) minimum.

Through Leak Method

For through leak testing the penetrant is applied to one side of the component and then developer is applied to the opposite side. Thickness of the component will effect the dwell time which may range from 10 minutes to 2 hours.



Penetrant Professor Approved

VBP-300

Visible Penetrant

Typical Physical Properties

Form: red liquid
 Density: 958 g/L
 Flash Point: >62.2°C (>144°F)
 Viscosity: 25.6 mm²/s
 Water Tolerance: > 5%
 Water Content: < 1 %
 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%)
 Sodium content: < 100 ppm (0.01%)
 Sulfur content: < 100 ppm (0.01%)
 Mercury: none
 VOC's: 0 g/L
 Ozone layer depleting substances: none
 PCB's: none

The warranty shelf life of the product is 5 years from date of batch approval.

Specifications

AMS -2644
 ASME B & PV code Sec. V
 ASTM E-165
 ISO 3452
 NAVSEA-T9074-AS-GIB-010/271

AMS-2647
 ASTM E-1417

Product Availability

1 pint(0.4L) can with dauber
 1 gallon (3.7L) plastic bottle
 5 gallon (18.9L) plastic jug with our spout
 55 gallon (208L) plastic drum

NSN

1 gallon 6850-01-267-7989
 5 gallon 6850-01-223-2867



Visible Penetrant Indication on Weld

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 dust/fumes/gas/mist/vapors/spray.
- P264: Wash skin thoroughly after handling.
- P273: Avoid release to the environment.
- P280: Wear protective glove/clothing/eye protection/face protection.
- P284: In case of inadequate ventilation wear respiratory protection.



See SDS for full health and safety information

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

Met-L-Chek Company, 1639 Euclid Street, Santa Monica, California, 90404, U.S.A.

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Met-L-Chek Company manufactures a complete line of penetrants used in the fluorescent (Type 1) and visible (Type 2) dye penetrant inspection process. All Met-L-Chek Company penetrants are qualified to AMS-2644 and are 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.

VP-30 is a visible (Type 2), water washable (Method A) and solvent removable (Method C) inspection penetrant. It is designed for use in general metalworking, welding, nuclear and automotive applications for surface flaw and through leak detection. VP-30 has found wide use in the inspection of food and dairy processing equipment such as heat exchanges. Visible penetrants are not rated by sensitivity levels per AMS-2644 but are considered approximately equal to level 1 fluorescent penetrants. 50µ discontinuities are readily detected and under controlled conditions 30µ size defects may be highlighted by visible penetrants. ISO-3452 does rate visible penetrants by sensitivity level with #2 being the most sensitive. VP-30 is a level 2 per this specifications requirements.

VP-30 is listed on the Qualified Products List for AMS-2644. It meets the requirements of ASME Boiler and Pressure Vessel Code Section V, ASTM E-165, ASTM E-1417, and ISO- 3452 for penetrant inspection materials. It is low in Sulfur, Chlorine, Fluorine and other Halogens, making it safe for use on Titanium and high Nickel alloys found in aerospace, medical and nuclear components.

Guide to METHOD "A" processing per
ASTM E-1417

Guide to METHOD "C" wipe off processing per
ASTM E-1417

1. Part must be clean, dry and at a temperature of 4.4°-52°C (40°-125°F) before penetrant is applied.
2. Apply VP-30 penetrant using spray, immersion, or wipe on.
3. Wait a minimum of 10 minutes; 20 minutes if temperature is 4.4°-10°C (40-50°F).
4. Wash part; water temperature 10°-38°C (50°-100 °F). Water pressure < 275kPa (< 40 psi); if a hydro-air nozzle is used limit pressure to < 172kPa (< 25 psi). Distance > 30cm (> 12 inches). Wash time- only long enough to remove surface penetrant under white light.
5. Dry part, time - only long enough to dry surface.
6. Apply non-aqueous developer D-70 by spraying. If water based developers D-78B is used it is applied by immersion or spray, prior to step 5 drying.
7. Wait a minimum of 10 minutes before inspection.
8. Use lighting of 1100 lux/m2 (100 footcandles) minimum.

1. Part must be clean, dry and at a temperature of 4.4°-52°C (40°-125°F) before penetrant is applied.
2. Apply VP-30 using spray, immersion, or wipe on.
3. Wait a minimum of 10 minutes; 20 minutes if temperature is 4.4°-10°C (40-50°F).
4. Moisten cloth with remover E-59, E-59A, R-503 or R-504 and wipe penetrant from surface. Do not spray remover on surface to remove penetrant, as sensitivity will be impaired.
5. Apply nonaqueous developer D-70, by spraying.
6. Wait a minimum of 10 minutes before inspection.
7. Use lighting of 1100 lux/m2 (100 footcandles) minimum.

Through Leak Method

For through leak testing the penetrant is applied to one side of the component and then developer is applied to the opposite side. Thickness of the component will effect the dwell time which may range from 10 minutes to 2 hours.

Step 1 clean surface

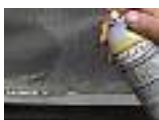
Step 2 apply penetrant

Step 4 remove penetrant

Step 5 apply developer

Step 7 inspect

Method
"C"





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VP-30

Visible Penetrant

Typical Physical Properties

Form: red liquid
 Density: 801 g/L
 Flash Point: >62.2°C (>144°F)
 Viscosity: 2.5 mm²/s
 Water Tolerance: > 5%
 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: < 150 ppm (< 0.015%)
 Mercury: none
 VOC's: 533 g/L
 Ozone layer depleting substances: none
 PCB's: none

Product Availability

12 x 400mL(16oz) vol. aerosol net wt 310g (10.9oz)
 1 pint(0.4L) can with dauber
 1 gallon (3.7L) metal can
 5 gallon (18.9L) metal pail
 55 gallon (208L) metal drum

NSN #'s

1 gallon 6850-01-267-7989
 5 gallon 6850-01-223-2867

The warranty shelf life of the product is 5 years from date of batch approval.

Specifications

- AMS-2644
- ASME B & PV code Section V
- ASTM E-165 ASTM E-1417
- Dassault IQ-1-0-1-20
- ISO-3452
- NAVSEA-T9074-AS-GIB-010/271
- PMUC
- RCC-M rev 2000



GHS Information

Danger



GHS Hazard Statements:

- H227:** Combustible liquid.
- H304:** May be fatal if swallowed and enters airways.
- H315:** Causes skin irritation.
- H318:** Causes serious eye damage.
- 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.
- P261:** Avoid breathing dust/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.

See SDS for full health and safety information



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 it before reuse.

Transport:

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

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VP-31A is a visible (Type 2), post emulsifiable (Method B) and solvent removable (Method C) inspection penetrant. It is designed for use in general metalworking, welding, nuclear and automotive applications for surface flaw and through leak detection. VP-31A is used with E-50 emulsifier for Method B processing which renders the penetrant water washable. Visible penetrants are not rated by sensitivity levels per AMS-2644 but are considered approximate to level 1 fluorescent penetrants. 50µ discontinuities are readily detected and under controlled conditions 30µ size defects may be highlighted by visible penetrants. ISO-3452 does rate visible penetrants by sensitivity level with #2 being the most sensitive. VP-31A is a level 2 per this specifications requirements.

VP-31A is listed on the Qualified Products List for AMS-2644. It meets the requirements of ASME Boiler and Pressure Vessel Code Section V, ASTM E-165, ASTM E-1417, and ISO- 3452 for penetrant inspection materials. It is low in Sulfur, Chlorine, Fluorine and other Halogens, making it safe for use on Titanium and high Nickel alloys found in aerospace, medical and nuclear components.

Guide to METHOD "B" (lipophilic) processing per ASTM E-1417

Guide to METHOD "C" wipe off processing per ASTM E-1417

1. Part must be clean, dry and at a temperature of 4.4°-52°C (40°- 125°F) before penetrant is applied.
2. Apply VP-31A penetrant using spray, immersion, or wipe on.
3. Wait a minimum of 10 minutes; 20 minutes if temperature is 4.4°-10°C (40-50°F).
4. Spray on E-50 emulsifier, or flow on; drain time < 2 minutes.
5. Wash part; water temperature 10°-38°C (50°-100 °F). Water pressure < 275kPa (< 40 psi). Distance >30cm (>12 inches). Wash time- only long enough to remove surface color .
- 6*. Dry part.
7. Apply non-aqueous developer, D-70, form "F", by spraying.
- 7A*. If water based developer form D-78B, "c" is used, it is applied by immersion or spray, prior to step 6 drying.
8. Wait a minimum of 10 minutes before inspection. Maximum time is 1 hour for form "f" (non-aqueous), maximum 2 hours for form "c" (aqueous). If times are exceeded, clean part and reprocess. Use illumination of >1100 lux/m² (>100 foot candles) to inspect.

1. Part must be clean, dry and at a temperature of 4.4°-52°C (40°- 125°F) before penetrant is applied.
2. Apply VP-31A using spray, immersion, or wipe on.
3. Wait a minimum of 10 minutes; 20 minutes if temperature is 4.4°-10°C (40-50°F).
4. Moisten cloth with remover E-59, E-59A, R-503 or R-504 and wipe penetrant from surface. Do not spray remover on surface to remove penetrant, as sensitivity will be impaired.
5. Apply nonaqueous developer D-70, by spraying.
6. Wait a minimum of 10 minutes before inspection.
7. Use lighting of 1100 lux/m² (100 footcandles) minimum.

Through Leak Method

For through leak testing the penetrant is applied to one side of the component and then developer is applied to the opposite side. Thickness of the component will effect the dwell time which may range from 10 minutes to 2 hours.



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VP-31A

Visible Penetrant

Typical Physical Properties

Form: red liquid
Density: 880 g/L
Flash Point: > 93.3°C (> 200°F)
Viscosity: 6.2 mm²/s
Water Tolerance: > 5%
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: < 150 ppm (< 0.015%)
Mercury: none
VOC's: 0 g/L
Ozone layer depleting substances: none
PCB's: none

Product Availability

12 x 400mL(16oz) vol. aerosol net wt 310g (10.9oz)
1 pint(0.4L) can with dauber
1 gallon (3.7L) metal can
5 gallon (18.9L) metal pail
55 gallon (208L) metal drum

NSN #'s

5 gallon 6850-01-264-8677

The warranty shelf life of the product is 5 years from date of batch approval.

Specifications

AMS-2644 ASME B & PV code Section V
ASTM E-165 ASTM E-1417
ISO-3452
NAVSEA-T9074-AS-GIB-010/271
RCC-M rev 2000



Visible Penetrant Indications

GHS Information



Warning

GHS Hazard Statements:
H315: Causes skin irritation.
H319: Causes serious eye irritation.
H335: May cause respiratory irritation.

GHS Precautionary statements:

P102: Keep out of reach of children.
P261: Avoid breathing dust/fumes/gas/mist/vapors/spray.
P264: Wash skin thoroughly after handling.
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 it before reuse.

Transport:

DOT- not regulated
IATA- not regulated
IMDG- not regulated

See SDS for full health and safety information

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Penetrant Professor Approved

Product Data Sheet

VP-302 High Temperature Penetrant

1
11/2015



Met-L-Chek Company manufactures a complete line of penetrants used in the fluorescent (**Type 1**) and visible (**Type 2**) dye penetrant inspection process. Met-L-Chek Company high temperature penetrant, **VP-302**, is qualified to **Mil-I-25135** as a special application penetrant 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.

VP-302 is a special application high temperature inspection penetrant. The use range is **51.6 °C - 176.6 °C (125°F -350°F)**. **VP-302** 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.

VP-302 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.

PENETRANT APPLICATION: Before proceeding with the use of **VP-302**, it is important to be sure that the temperature of the part is not too hot. To test this, apply a small amount of penetrant to the area to be tested, and observe it after 10 minutes. If the penetrant has good red color, you may proceed. But if there is any indication of fading, or of the color turning brown, then the part is too hot and it must be cooled until the penetrant will function properly without color loss. After making this test, the **VP-302** penetrant is applied to the hot surface to be tested with a brush or other applicator. At this elevated temperature the penetrant thins and penetrates the flaws rapidly. Penetration time will depend on temperature, but at 93.3°C (200°F) two to five minutes is usually sufficient for coarse cracks. Penetrant should only be applied to a small portion of the part to be tested at one time to minimize excessive dwell time, which can evaporate part of the penetrant. Inspect a small area at a time, and complete the inspection of the area within 10 minutes. Longer dwell time may result in the penetrant not functioning properly.

REMOVAL OF EXCESS SURFACE PENETRANT: Remove excess penetrant with a cloth or paper toweling, then clean the surface with a cloth moistened with **R-502** remover. The hot surface will then dry rapidly.

DEVELOPER APPLICATION: **D-702** developer should be agitated and then applied with a pressurized spray gun, such as a paint sprayer or “Sure Shot”™ type sprayer. Apply in a thin even coat, making several passes if necessary. If a paint sprayer is not available, a simple hand pump sprayer, such as is used for household products, and available in supermarkets, may be used, although the developer coat will not be as smooth or uniform. Be careful not to build up a thick coat, since this may mask defect indications. Flaw indications form quickly, and appear as red marks on the white developer. After inspection, the **D-702** developer coating may be removed by wiping with a cloth moistened with **R-502** remover, or by flushing with water.



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



Penetrant Professor Approved

VP-302 High Temperature Penetrant

Typical Physical Properties

Form: Red viscous liquid
 Density: 980 g/L
 Flash Point: > 148.8°C (> 300°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: < 100 ppm (0.01%)
 Fluoride content: < 50 ppm (0.005%)
 Sulfur content: < 100 ppm (0.01%)
 Mercury: none
 VOC's: 0g/L
 Ozone layer depleting substances: none
 PCB's: none

Specifications

ASME B & PV code 07, secV, Art 6
 ASTM E-165
 ASTM E-1417
 Mil-I-25135C, Interim AM-4
 NAVSEA-250-1500-1, Rev16, ACN-5

Product Availability

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

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



GHS Information



Danger

GHS: Hazard Statements:
H351: Suspected of causing cancer.

GHS Precautionary Statements:

P102: Keep out of reach of children.
P261: Avoid breathing fumes/gas/mist/vapors/spray.
P264: Wash skin thoroughly after handling.
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
 IATA- not regulated
 IMDG- not regulated

See SDS for full health and safety information

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RLP-1 is a water based, dual light response visible and fluorescent (Type 3) penetrant. It is designed for through leak testing and general metal working surface flaw detection. It is a biodegradable penetrant being free of solvents and oils. RLP-1 is used on plastics that may be attacked by more traditional inspection penetrants.

RLP-1 gives visible red indications under white light and fluorescent orange indications under UV-A illumination. In the fluorescent mode of inspection smaller discontinuities may be detected than in the visible mode. Being a water based penetrant it may be diluted with water to fit the inspection needs. The most common dilutions are 1:1 and 3:1 water to RLP-1. The use of developer D-70 will enhance flaw detection. It is low in Sulfur, Chlorine, Fluorine and other Halogens, making it safe for use on Titanium and high Nickel alloys.

Guide to METHOD "A" processing

Guide to METHOD "C" wipe off processing

1. Part must be clean, dry and at a temperature of 4.4°-52°C (40°- 125°F) before penetrant is applied.
2. Apply RLP-1 penetrant using spray, immersion, or wipe on.
3. Wait a minimum of 10 minutes; 20 minutes if temperature is 4.4°-10°C (40-50°F).
4. Gently wash part; water temperature 10°-38°C (50°-100 °F). Water pressure low, Distance > 30cm (> 12 inches). Wash time- only long enough to remove surface penetrant under white light.
5. Dry part; temperature not to exceed 71°C (160°F), time - only long enough to dry surface.
6. Apply non-aqueous developer D-70 by spraying.
7. Wait a minimum of 10 minutes before inspection. Maximum time is 1 hour.
- 8 For fluorescent inspection use UV-A illumination of >1000 μw/cm² @ 15inches (38.1 cm) in a darkened area of <21 lux visible light (<2 footcandles). For visible inspection use lighting of 1100 lux/m2 (100 footcandles) minimum.

1. Part must be clean, dry and at a temperature of 4.4°-52°C (40°- 125°F) before penetrant is applied.
2. Apply penetrant using spray, immersion, or wipe on.
3. Wait a minimum of 10 minutes; 20 minutes if temperature is 4.4°-10°C (40-50°F).
4. Moisten cloth with remover or water and wipe penetrant from the surface. Do not spray remover on surface to remove penetrant, as sensitivity will be impaired.
5. Apply nonaqueous developer D-70, by spraying.
6. Wait a minimum of 10 minutes before inspection.
7. For fluorescent inspection use UV-A illumination of >1000 μw/cm² @ 15inches (38.1 cm) in a darkened area of <21 lux visible light (<2 footcandles). For visible inspection use lighting of 1100 lux/m2 (100 footcandles) minimum.

Through Leak Method

For through leak testing the penetrant is applied to one side of the component and then developer is applied to the opposite side. Thickness of the component will effect the dwell time which may range from 10 minutes to 2 hours.



Penetrant Professor Approved

RLP-1

Fluorescent & Visible Penetrant

Typical Physical Properties

Form: red liquid
 Density: 1.02 Kg/L
 Flash Point: none
 Viscosity: 7.8 mm²/s, concentrate
 Viscosity: 1.6 mm²/s, 3:1 dilution
 Corrosion of aluminum: none
 Corrosion of carbon steel: none
 Corrosion of magnesium: none
 Corrosion of stainless steel: none
 Corrosion of titanium: none
 Chloride content: < 1000 ppm (< 0.1%)
 Fluoride content: < 1000 ppm (< 0.1%)
 Sulfur content: < 1000 ppm (< 0.1%)
 Mercury: none
 VOC's: 0 g/L
 Ozone layer depleting substances: none
 PCB's: none

Product Availability

1 gallon (3.7L) plastic bottle
 5 gallon (18.9L) plastic jug with our spout
 55 gallon (208L) plastic drum

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

Specifications

ASTM E-165

ASTM E-1417

GHS Information



Danger

GHS Hazard Statements:

- H302** Harmful if swallowed.
- H315** Causes skin irritation.
- H318** Causes serious eye damage.
- H373** May cause damage to organs (kidney) through prolonged or repeated exposure if swallowed.
- H412:** Harmful to aquatic life with long lasting effects.

GHS Precautionary statements:

- P102:** Keep out of reach of children.
- P261:** Avoid breathing dust/fumes/gas/mist/vapors/spray.
- P264:** Wash skin thoroughly after handling.
- 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
- IATA- not regulated
- IMDG- not regulated

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