



Penetrant Professor Approved

Product Data Sheet
VBP-300
Visible Penetrant

1
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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.

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.



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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.



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

See SDS for full health and safety information

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