

#### PENETRANT PROFESSOR APPROVED

## **PRODUCT DATA SHEET**

# **Fluorescent Penetrant**

**FP-922** 



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-2644E 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.

**FP-922** is approved to **AMS-2644E** as a fluorescent (**Type 1**); Methods "A", and "C"; sensitivity level 2 water washable inspection penetrant. For Method "C" applications it is used with E-59, E-59A, R-503, and R-504. **FP-922** is applied by immersion, spray, or wipe on. It is approved for medium sensitivity aerospace applications

FP-922 is listed on the Qualified Products List for AMS-2644E. It meets the requirements of AMS-2647C, ASME Boiler and Pressure Vessel Code, ASTM E-165, and ASTM E-1417, and for penetrant inspection materials. It is low in sulfur and halogens and is safe for use on all metal surfaces.

### Guide to METHOD "A" processing per ASTM E-1417-05 1. Part must be clean, dry and at a temperature of 4.4°-52°C (40°- 125°F) before penetrant is applied. before penetrant is applied. 2. Apply FP-922 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). (40-50°F).

4. Wash part; water temperature 10°-38°C (50°-100 °F). Water pressure < 275kPa (< 40 psi); if a hydro-air nozzle use limit pressure to < 172kPa (< 25 psi). Distance > 30cm (> 12 inches). Wash time- only long enough to remove surface fluorescence under UV-A (black light) .

5. Dry part; temperature not to exceed 71°C (160°F), time - only long enough to dry surface.

6. Apply dry powder developer D-72A by dusting, or non aqueous developer **D-70** by spraying.

7. Wait a minimum of 10 minutes before inspection. Maximum time is 1 hour for form "d" (non aqueous) and maximum 4 hours for form "a" (dry powder). If times are exceeded, clean part and reprocess.

Guide to METHOD "C" wipe off processing per ASTM E-1417-05

1. Part must be clean, dry and at a temperature of 4.4°-52°C (40°- 125°F)

2. Apply FP-922 penetrant using spray, immersion, or wipe on.

3. Wait a minimum of 10 minutes; 20 minutes if temperature is 4.4°-10°C

4. Moisten cloth with 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. Water may be used to wipe FP-922 from the surface, but the surface must be dried before developer is applied.

5. Apply dry powder developer D-72A by dusting, or non aqueous developer **D-70** by spraying.

6. Wait a minimum of 10 minutes before inspection.

7. Inspect under UV-A illumination of >1000 µw/cm<sup>2</sup> @ 15 inches (38.1 cm) in a darkened area of < 21 lux visible light (< 2 footcandles).

8.Use UV-A illumination of >1000  $\mu$ w/cm<sup>2</sup> @ 15 inches (38.1 cm) in a darkened area of < 21 lux visible light (< 2 foot candles).



FP-922 fluorescent penetrant indications on aluminum aerospace structure

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### **Typical Physical Properties**

Form: yellow green liquid Density: 902 g/L Flash Point:  $> 93^{\circ}C (> 200^{\circ}F)$ Viscosity 8.5 mm<sup>2</sup>/s Water Tolerance: 9.5 % Fluorescent Brightness: (AMS-2644 requirement > 80 %) 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%)Sodium content: < 100 ppm (0.01%)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 5 years from date of batch approval.

### **Product Availability**

1 gallon (3.7L) metal can 5 gallon (18.9L) metal pail 55 gallon (208L) metal drum

### NSN #

1 galllon	6850-01-267-7987
5 gallon	6850-01-263-2261
55 gallon	6850-01-263-2262

### **Specifications**

AMS-2644E	AMS-2647C
ASME B & PV code 07 sec V	
<b>ASTM E-165</b>	<b>ASTM E-1417</b>
ISO-3452-2005E	
P & W PMC # 4351-7 Rev.AB	SPOP-82
RR RPS-702-7	<b>RR CSS-232</b>

See MSDS for detailed health. safety, and disposal information.

Transport: DOT: Bulk - Stain, not regulated

Hazards Eye irritant

Classification: **NFPA Health-1, Flammability-1, Reactivity-0.** EU- Xn; R65/R66; Xi; R36/38; Xn; R222; Xi; R41 WHMIS(Canada) D2B (bulk) Human health hazards: Eye irritant.

First aid measures

Eyes: Check for contact lenses and remove. Flush eyes with clean water holding eyelids open. Seek medical attention. Skin: Remove contaminated clothing. Wash exposed area with soap and water. Apply moisturizing lotion. Launder clothing before reuse. Clean shoes before reuse. Swallowing: Do not induce vomiting. Small amounts are not expected to cause significant harm, call a physician.

Swallowing: Do not induce vomiting. Small amounts are not expected to cause significant harm, call a physician. Inhalation: Remove to fresh air.

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