

D-76B

Met-L-Chek® D-76B is used with fluorescent (Type 1), Method B & D penetrants as form “b” developer per AMS-2644 and ASTM E-1417.

This form of developer powder is dissolved in water and applied to the inspection surface after the surface penetrant has been removed and before the part is dried. This form of developer is generally applied by immersion dip, flow on, or gentle air less spray, prior to the drying process. A uniform film will form during the drying. Most specifications do not allow the use of this form of developer with Method A (water washable) penetrants.



NDT Classification

- Type: 1 – Fluorescent
- Type: 2 – Visible
- Methods (Type 1): B, C & D
- Methods (Type 2): B & C
- Form (Type 1): b
- Form (Type 2): b

Available Sizes

- 10 lb. (4.5 Kg)
- 20 lb. (9.0 Kg)
- 25 lb. (11.3 Kg)
- 50 lb. (22.7 Kg)

NSN Information

- 6850-01-121-0952 – 10 lb.
- 6850-00-782-2720 – 20 lb.
- 6850-01-121-0953 – 50 lb.

Specifications

- | | |
|--------------------|---|
| • AMS 2644 | • ISO 3452-2 |
| • AMS 2647 | • MIL-STD-2132 |
| • ASME B&PVC Sec V | • NAVSEA 250-1500-1 |
| • ASTM E-1417 | • PR-5000 |
| • ASTM E-165 | • PSD 6-46 & PSD 8-4 |
| • BAC 20-20-02 | • RCC-M edition 2000,
Section V-F, sub-
section F6423-3 |
| • BAC 5423 | • RPS-702-7 |
| • BSS 7039 | • RRP 58003 |
| • EMS 52309 | • T9074-AS-GIB-010 |
| • GE 70-32-02 | |
| • GE LM6000 PC | |
| • HGS1010 | |

Typical Physical Properties

Form	Granular white powder
Fluorescence	None
Dry Coating	Thin White Film

Use Instructions

Visit www.Met-L-Chek.com to view detailed processing method guides.

Notes Prior to Handling

Before using Met-L-Chek® products, all safety and operating instructions should be read and understood. If you have any questions, please contact your Met-L-Chek® representative before proceeding. For complete health and safety information, refer to the product’s Safety Data Sheet. Met-L-Chek® Safety Data Sheets can be requested online at www.Met-L-Chek.com

Bath Preparation

Use a tank that has little or no plumbing in it. The nooks and crannies in piping are a favorite place for bacteria to breed and to hide. It is difficult to get into these spots to clean them, and once they become infected, they will continue to give trouble. Clean and sterilize the tank before you use it. Cleaning can be done with detergent and a brush, and many users follow this with steam cleaning. Once the tank is clean, sterilize it with swimming pool bleach, by making up the solution, filling tank, and letting it sit overnight. Drain the tank and rinse it with fresh water. This must be done to be sure that the bleach is gone. The bleach contains chlorine, which is harmful to many metals.

Weigh out the amount of developer powder that is required. D-76B is qualified at a concentration of 2 lb./gal (240g/L). Lower concentrations will form thinner films and result in shorter bath life. If possible, use distilled or deionized water to minimize mineral and bacteriological problems. If warm water can be used it will dissolve the developer powder faster. Agitation of the bath during make up will also make the powder dissolve faster. Add the water to the tank, then add the powder: The solution concentration can be checked by using a hydrometer that has a range of 1.000 to 1.200. Evaporation causes the concentration to rise, and this can be corrected by adding water, stirring, and rechecking the hydrometer reading. This should be done daily. A rough control guide is 1/4 lb./gal (30g/L) of developer will cause roughly a 0.008 change in the specific gravity.

Check the solution daily for color and clearness. The solution should be clear and transparent. There should be no suspended material, strings of algae or other obvious growths or cloudiness. This daily check is especially important if the inspection process involves the processing of baskets of parts that are made of dissimilar metals. These metals can set up an electrical current that can produce cloudiness of the solution. This color change is a sign that the developer constituents are becoming contaminated and indication detection interference may be encountered. Biologically bad developer solution will absorb fluorescence causing false indications or even masking relevant indications. The growths will also begin to evolve noxious odors which makes continued use unpleasant. Biologically contaminated solutions will need to be disposed of and the tank & plumbing sterilized before making a fresh bath.

After parts have been dipped into the developer, put them immediately into the dryer. Allowing part to remain in the wet developer, or to sit while wet for a period of time before drying can cause the penetrant to bleed from the defects, resulting in dim blurry indications. Immediate drying produces the best results. The dryer temperature should be set at the maximum allowable temperature of 71°C. If the surface of the part looks bluish under ultraviolet light (UV-A), it is an indication that the parts have been in the developer bath too long and the bath is becoming contaminated with penetrant.

Concentration Control @ 15.5°C

2.00 lb./gal (240 g/L) - 1.068
 1.75 lb./gal (210 g/L) - 1.060
 1.50 lb./gal (180 g/L) - 1.052
 1.25 lb./gal (150 g/L) - 1.044
 1.00 lb./gal (120 g/L) - 1.036

0.25 lb./gal (30 g/L) addition will shift specific gravity by 0.008.

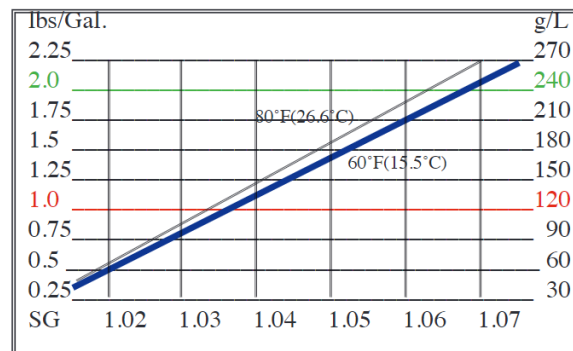


Chart is not precise and is provided as a guide only. Specific Gravity readings are affected by temperature. For uniform comparisons make all readings at the same temperature.

Contact Us

United States

McGean

Phone: +1-216-441-4900

Fax: +1-216-441-1377

Email: Info@Met-L-Chek.com

United Kingdom

McGean UK

Phone: +44-1902-456563

Fax: +44-1902-457443

Email: Info@Met-L-Chek.com

Singapore

McGean Singapore

Phone: +65-6863-2296

Fax: +65-6863-2297

Email: Info@Met-L-Chek.com

China

Cee-Bee Aviation Materials (Xiamen) Co. Ltd.

Phone: +86-592-551-3689

Email: Info@Met-L-Chek.com

Met-L-Chek® manufactures a complete line of Nondestructive Testing materials including penetrants used in fluorescent (Type 1) and visible (Type 2) dye penetrant inspection, wet and dry magnetic particle inspection, and a variety of specialty testing materials.

CAUTION: Before using any of these products, you must become completely familiar with the safety and hazard information contained in our safety data sheets regarding these products. McGean-Rohco, Inc. (the seller) presents the information contained herein without warranty and disclaims any liability from its use or misuse. Seller recommends use of the information Seller's products solely in commercial processes which are specified by Seller and which do not violate any third party patent rights or any laws or regulations. The seller makes no warranties, express or implied, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose except as expressly stated in the seller's sales contract or sales acknowledgement form.



Revision: 08/2022 (Rev. A2)