



Penetrant Professor Approved



Met-L-Chek Company manufactures a complete line of cleaner/removers used in the fluorescent (**Type 1**) and visible (**Type 2**) dye penetrant inspection process. All Met-L-Chek Company cleaner/removers 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.

**E-59** is a class 2 (non-halogenated), Method C inspection penetrant remover. It is designed for use in the solvent wipe technique for penetrant inspection in general metalworking, welding, nuclear and automotive applications. It is a slow dry rate material and is ideal for penetrant wipe removal. **E-59** is **not** used as a pre-inspection surface cleaner. As a penetrant remover it is sprayed onto wiping media and then the penetrant wiped from the surface. The remover should not be sprayed directly on to the test surface to remove the excess penetrant as the sensitivity will be impaired.

**E-59** is listed on the Qualified Products List for **AMS-2644**. It meets the requirements of **AMS-2647**, **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.

**E-59** contains combustible solvents and should not be used around open flames or sparks.

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 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 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. For fluorescent **Type 1** penetrants use UV-A illumination of  $>1000 \mu\text{w}/\text{cm}^2$  @ 15inches (38.1 cm) in a darkened area of  $<21 \text{ lux}$  visible light ( $<2$  footcandles). For visible **Type 2** penetrants use lighting of 1100 lux/m<sup>2</sup> (100 footcandles) minimum.



Apply **E-59** to cloth to wipe remove surface penetrant.



Visible penetrant indications of porosity on weld and stress cracks on metal clamp.

