DP-40 DYE PENETRANT

Approved Type II, Methods B, C & D, MIL-I-25135 Rev. D & E, and AMS-2644
Approved Group I, IA, & II of MIL-I-25135 Rev. C

DUBL-CHEK PENETRANT PROCESS

PRODUCT INFORMATION

Description: Use DP-40 to locate cracks, laps, pores, lack of bonding, and similar surface flaws in any insoluble, nonporous substance including both ferrous and nonferrous metals, ceramics, glass and many plastics. Referred to as the "visible dye penetrant" method or "color contrast" method of inspection. DP-40 meets MIL-I-25135 and AMS-2644 requirements.

Special Features: DP-40 Dye Penetrant is especially recommended for weldment inspection. It offers the following advantages.

1. Brings flaws into "sharper, clearer focus" with a more intense red color.
2. Performs more reliably over a greater range of temperatures.
3. DP-40 meets stringent low sulfur and chlorine specifications.
4. Long lasting flaw-mark indications; less fading.
5. Higher sensitivity. DP-40 finds more minute surface openings and enters flaws in greater volume.

Companion Materials:

Developers -	Sherwin D-100 Nonaqueous (form d) Sherwin D-106 Nonaqueous (form d) equivalent MIL-I-25135/AMS-2644 developers
Emulsifiers -	Sherwin ER-85 Lipophilic Emulsifier (Method B) Sherwin ER-83A Hydrophilic Emulsifier (Method D)
Removers -	Sherwin DR-60 (Class 2) Sherwin DR-62 (Class 2) equivalent MIL-I-25135/AMS-2644 removers

Container Sizes:

one-gallon cans
case of 4 one-gallon cans
five-gallon pail
55-gallon drum
case of 12 aerosol cans

Basic Instructions: (These instructions describe the basic process, but they may be amended by the user to comply with applicable specifications and/or inspection criteria provided by the contracting agency.)

1. Clean Surface: DP-40 must be applied to a dry surface that is free of soils, oils, or solvents that would impede the penetrant's entering surface flaws. If there is any doubt concerning the surface's cleanliness, the surface should be cleaned with Sherwin's DR-60, DR-62, or similar product.
2. Application: Apply DP-40 only to clean, dry surfaces by spraying, flowing, brushing or dipping.
3. Dwell-Time: A minimum 5 minute dwell time is suggested, although when ambient temperatures are below 60°F, when particularly tight cracks are suspected, or when the part is especially critical, the dwell time may be extended to 10 minutes, or longer.

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Do not soak the part. To increase sensitivity, as well as conserve material, allow the penetrant to drain from the part surface back into the penetrant tank.

4. **Removal: DP-40** can be removed from small areas by wiping with clean rags or toweling which have been moistened with **DR-60 or DR-62 Cleaner-Removers.** Large areas and rough surfaces may require different removal techniques.

5. **Drying:** Surface may be allowed to dry naturally. Speed drying by blotting the surface with clean, dry toweling or by using light, warm air currents—wiping may smear indications.

6. **Developing:** Use **D-100 or D-106 (non-aqueous) developers** to draw flaw-entrapped penetrant to the surface and reveal flaw locations against a white background.

Applicable Specifications:

MIL-I-25135 Rev's. C & D & E
ASME Code
Navships 250-1500
AMS-2644

RDT Standard
MIL-STD-271 E
ASTM-E-165
ASTM-E-1417

AECL
MIL-STD 6866
RDT-F3-6

PRECAUTIONARY INFORMATION

DP-40 is a combustible liquid. Use with adequate ventilation and away from sparks, fire or open flame. Avoid prolonged or repeated contact with skin. Do not take internally. Avoid prolonged or repeated breathing of vapors. Read the label on the container for additional precautionary information. Never puncture, heat, or burn spray cans: store at less than 120°F; keep out of direct sun.

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