DP-50 VISIBLE PENETRANT

Technical Data Sheet

Description: DP-50 is water washable visible penetrant used to locate cracks, laps, pores, lack of bonding, and similar surface flaws. **DP-50** can be used on nonporous parts including both ferrous and nonferrous metals, ceramics, and glass and some plastics. Referred to as the "visible dye penetrant" method or "color contrast" method of inspection and can be used for weld inspection.

Chemical Properties

Color:	Red
Viscosity:	7.07 cSt @ 100^0F
Flash Point:	220^0F (104^0C)
Odor:	Petroleum Odor
Boiling Point:	300^0F (148^0C)

Companion Products

D-110A Water Suspendable Developer	DR-62 Solvent Remover
D-100 Non-Aqueous Developer	DR-60 Solvent Remover
D-106 Non-Aqueous Developer	

Packaging

One Gallon Cans	55 Gallon Drums
Five Gallon Cans	16oz. Aerosol Cans (9 cans per case)

Storage /Shelf Life

Keep away from moisture and sunlight.
Temperature limit: 40^0F to 125^0F (0-50^0C)
Keep the container closed when not in use.
Shelf life from invoice date: Bulk Container – 36 months / Aerosol Can – 24 months

Specifications

SAE AMS 2644 & QPL
MIL-I-25135 Revisions C, D, & E ASME Code NDT, Sec V

Special Features

1. Brings flaws into sharper, clearer focus with more intense red color.
2. Performs more reliably over a greater range of temperatures.
3. **DP-50** meets stringent low sulfur and chloride requirements.

4. Long lasting flaw mark indications; less fading.
5. Water washable; easy to remove.

Instructions

Note: These instructions describe the basic process, but they may need to be amended by the user to comply with applicable specification and/or inspection criteria provided by the contracting agency.

1. **Application:** Apply **DP-50** only to clean, dry surfaces by spraying, flowing, brushing or dipping.
2. **Dwell Time:** A 10 minute dwell time is suggested, although in many cases five minutes will suffice. When particularly tight cracks are suspected, or the part is especially critical, the dwell time may be extended to 30 minutes, or longer. Allow the penetrant to drain from the part surface back into the penetrant tank to conserve material.
3. **Removal**:

A) Water Wash Method - Use ambient temperature water to rinse **DP-50** from the part surface. To avoid washing entrapped penetrant from surface flaws, do not use high water pressure temperatures and avoid prolonged washing times.

B) Solvent Wipe Method - Remove as much excess penetrant as possible using a clean, dry rag or toweling. Remove remaining penetrant film by wiping with a rag or toweling that has been slightly moistened with solvent. Use a minimum of solvent; avoid flushing penetrant from flaws. Do not spray solvent directly on the part surface when removing excess penetrant. Rough surfaces require more generous application of solvent.

4. **Drying**:

A) A recirculating oven set no higher than 160^0F (71^0C) is suggested. Leave the part in the oven just long enough to evaporate surface moisture. Drying is improved by using pressurized air to disperse and remove as much excess water as possible before placing the part in to the oven.

B) When solvent remover is used, allow the surface to dry completely before applying developer.

5. **Developing**: Apply the developer by spray or dip using the appropriate developer. Flaw marks are visible almost immediately, but allow sufficient developing time to enhance the flaw visibility.

6. **Inspection:** Inspect parts under appropriate light.

Health & Safety

DP-50 is a combustible liquid. Use with adequate ventilation and away from sparks, fire or open flames. Avoid prolonged or repeated contact with skin. Do not take internally. Consult the MSDS for more safety and health information.