

D-100 DEVELOPER

Approved Form d, MIL-I-25135 Rev. D & E; and Form d & e, AMS-2644
Approved All Groups, MIL-I-25135 Rev. C



PRODUCT INFORMATION

Description: D-100 developer consists of refined white particles suspended in isopropyl alcohol to give enhanced sensitivity for locating tight, incipient flaws. By solvent and capillary action, it pulls flaw-entrapped penetrant to part surfaces for display against a white background.

D-100 may be used with both visible and fluorescent penetrants. D-100 meets MIL-I-25135 and AMS-2644 requirements.

The product meets low sulfur, halogen, and sodium requirements.

Special Features: When sprayed on a part, D-100 lays on the surface in a thinner, more uniform, more absorbant coat to give more reliable performance. It has superior suspension properties, and is removed easily by light brushing or water rinse.

D-100 works well on smooth or rough surfaces as well as on machined or coated surfaces.

Companion Materials:

Penetrants -	All Sherwin visible and fluorescent penetrants equivalent MIL-I-25135/AMS-2644 penetrants
Emulsifiers -	Sherwin ER-83A Hydrophilic Emulsifier (method D) Sherwin ER-85 Lipophilic Emulsifier (method B)
Removers -	Sherwin DR-60 (Class 2) Sherwin DR-62 (Class 2) equivalent MIL-I-25135/AMS-2644 removers

Container Sizes: case of 12 aerosol cans
one-gallon cans
case of 4 one-gallon cans
five-gallon pail

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

Spraying is the only recommended method of applying D-100. Proper application is essential for high sensitivity performance.

- Application:** D-100 should be applied to thoroughly dry parts from which excess surface penetrant has been removed by a pre-wash step, an emulsifier/wash step, or by wiping. After agitating the D-100 suspension, evenly spray a light, slightly wet coating of developer onto the dry surface of a part. An overly wet application will blur indications; an overly dry application lacks full developing action. Two or three light applications work better than a single heavy application. Too heavy an application may conceal indications.

D-100 is supplied in aerosol spray cans. It also comes in bulk. Apply bulk D-100 at 15-30 pounds pressure with a paint spray type gun equipped with a vaporizing tip. The pressure pot or tank should have a stirrer to suspend the developer particles uniformly, and air lines should have water filters and air dryers. For some applications, it may be advantageous to dilute D-100 with isopropyl alcohol anhydrous: do not add more than 3 parts alcohol to 2 parts D-100.

- Developing and Inspection:** D-100 dries rapidly and draws flaw-entrapped penetrant back to the surface using solvent and capillary action. Flaw marks begin appearing instantly under plain or black light, depending on which penetrant is being used. Five minutes or more should elapse before making final interpretations. ASTM E-1417 specifies minimum developing time as 10 minutes and maximum as 1-hour.

revised September 2003

SHERWIN
INCORPORATED

5530 Borwick Ave.
South Gate, CA 90280
(562) 861-6324
FAX (562) 923-8370

Applicable Specifications:

MIL-I-25135 Rev's. C D & E
ASME B & P Vessel Code
Navships 250-1500
ASTM-E-1417
AMS-2644

Pratt & Whitney FPM
MIL-STD-271 E
AMS-2647
ASTM-E-165

AECL
MIL-STD 6866
RDT-F3-6T
ASTM E-1417

PRECAUTIONARY INFORMATION

D-100 is highly flammable; flash point approximately 53°F. Fight small fires with carbon dioxide or dry chemical extinguishers. The greatest hazard is high vapor concentration which can result in fire or explosion, or can anesthetize personnel. Use in well ventilated area. Avoid prolonged or repeated inhalation of vapor. Avoid contact with skin. Do not take internally; if taken internally contact physician. In the event of a spill, eliminate all sources of ignition, stand by with fire extinguisher, and contact authorities. Never puncture, heat, or burn spray cans: store at less than 120°F; keep out of direct sun.