

D-90G DRY DEVELOPER

Approved Form a, MIL-I-25135 Rev. D & E, and AMS-2644
Approved Groups IV, V, VI, VIA, & VIB, MIL-I-25135 Rev. C



PRODUCT INFORMATION

Description: D-90G is a dry developer powder used with Sherwin "RC" and "HM" designated fluorescent penetrants. It amplifies the location of cracks, pores, and similar flaws by multiplying fluorescent brilliance. It also assists penetrant re-bleed back to the part surface, and stabilizes indications.

The product meets low-sulfur, low-halogen, and low-sodium requirements. D-90G meets MIL-I-25135 and AMS-2644 requirements.

Special Features: After application, D-90G leaves a telltale collection of powder where flaw-entrapped penetrant is re-bleeding to the surface. The powder serves several functions. It draws penetrant to the surface to define more clearly a flaw's location and to prevent the penetrant from spreading on the part surface. It amplifies an indication's fluorescent brilliance. And, it provides a thin, molecular attracted coating over a part's surface to accelerate delayed flaw-entrapped penetrant re-bleed.

Companion Materials:

Penetrants - All Sherwin "RC-" designated non-water washable penetrants
All Sherwin "HM-" designated water washable penetrants
equivalent QPL-25135/AMS-2644 fluorescent penetrants

Container Sizes: 15 pound containers

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.)

1. **Occasional Mixing:** D-90G should be mixed occasionally to assure uniform texture. D-90G must always be mixed after shipment and prior to use.
2. **Pre-Wash and Drying:** Use a quick, ambient temperature water wash at tap pressure (n.t.e. 40 p.s.i.) to rinse any excess fluorescent penetrant from the part surface. To avoid washing entrapped penetrant from surface flaws, do not use high water pressures and temperatures, or prolonged washing and scrubbing.

Dry the pre-washed part thoroughly. If a recirculating dryer is used, do not allow the temperature to exceed 170°F. In order not to degrade flaw-entrapped penetrant, use the minimal practicable drying time.

3. **Application:** A dust chamber is practical for applying D-90G. If none is available, D-90G may be applied with a soft brush or hand powder bulb.

D-90G may also be applied by immersing the part directly in the developer powder. However, with this method, never re-immerses the part in the developer, since re-immersion can wipe away penetrant already drawn to the surface, giving a false assurance of no flaws under final inspection.

4. **Developing and Inspection:** Shake or, by using very light air pressure, blow excess D-90G powder from the surface. Allow a minimum of 3 minutes developing time before examining the part under black light. For especially critical inspections, lengthen the developing time. STME-1417 specifies developing time as 10 minutes and maximum as 4 hours.

¹AMS 2647B Aerospace Material Specification

²ASTM E1417 Standard Practice for Liquid Penetrant Examination

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Applicable Specifications:

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

MIL-STD-271E
AMS-2647
ASTM-E-165
AECL

MIL-STD 6866
RDT-F3-6T
Rolls Royce
ASTM-E-1417

PRECAUTIONARY INFORMATION

D-90G is a fine powder. Avoid inhalation. Respiratory protection such as M-S-A Dustfoe 77, or equivalent, may be advisable. Powder must be kept dry to protect performance, **WARNING** — Dry, powdered materials can build static electrical charges when subject to friction; take proper precautions in the presence of flammable or explosive liquids.