

TECHNICAL DATA SHEET

DUBL-CHEK D-100

NON-AQUEOUS DEVELOPER

Description: DUBL-CHEK D-100 developer consists of refined white particles suspended in isopropyl alcohol that produces enhanced sensitivity for locating discontinuities. D-100 developer pulls entrapped penetrant to the part surface and creates a contrasting vivid white background. Complies with low sulfur and low halogen requirements.

DUBL-CHEK D-100 may be used with both visible and fluorescent penetrants. It works well on smooth, rough, machined or coated surfaces.

Properties

Colour:	White Suspended Particles
Flash Point:	11.7°C
Boiling Point:	82°C
Specific gravity:	0.875 - 0.915 g/ml
Temperature limit:	4°C to 50°C

Companion DUBL-CHEK Products

Penetrants:	All SHERWIN fluorescent and visible products Equivalent MIL-I-25135 / AMS 2644 penetrants
Emulsifiers:	DUBL-CHEK ER-83A Hydrophilic Emulsifier (method D) DUBL-CHEK ER-85 Lipophilic Emulsifier (method B)
Removers:	DUBL-CHEK DR-60 (Class 2) DUBL-CHEK DR-62 (Class 2) DUBL-CHEK DR-64 (Class 2) Equivalent MIL-I-25135 / AMS 2644 penetrants

Packaging

Aerosol (12 aerosols per carton)	Product Code: 1488/400
3.8L	Product Code: 1488/42
18.9L	Product Code: 1488/51

Storage /Shelf Life

Keep away from moisture and sunlight.
Keep the container closed when not in use.
Shelf life: 36 months (3 years) from date of manufacture.
Refer to NDT Shelf Life and Storage Recommendations for further information.

Specifications

Aerosols and bulk material meet or exceed industry specifications including but not limited to;			
SAE AMS 2644 & QPL	MIL-I-25135	ASME Code NDT, Sec V	AS 2062
Pratt & Whitney FPM	AECL	MIL-STD-271	MIL-STD-6866
Navships-250-1500	AMS 2647	RDT-F3-6T	ASTM E1417
ASTM E165			

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Batch Numbers

Batch numbers can be found on the bottom of aerosol cans or labels of bulk containers. Certificate of Conformance documents are provided with the product or can be downloaded from www.callington.com

Special Features

Lays on the surface in a thinner, more uniform, more absorbent coating.
Has superior suspension properties.
It is easily removed by light brushing or spray water rinse.
Works well on smooth or rough surfaces.
Can be used on machined or coated surfaces.
Can be used with both visible and fluorescent penetrants.

Instructions

Note: These instructions describe the basic process, but they may need to 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 and performance.

1. Application: **D-100** should be applied to a thoroughly dry part from which all excess surface penetrant has been removed.
2. Removal: Use the appropriate pre-wash, an emulsifier or wipe method to remove the excess penetrant from the surface. **D-100** can be removed using a cleaner or course water spray after inspection.
3. Drying:
 - Before applying developer, drying is improved by using pressurised air to disperse and remove as much excess water as possible before placing the part in to the oven or ambient air drying.
 - It is suggested that the part is put into a re-circulating oven set no higher than 71°C. Leave the part in the oven just long enough to evaporate surface moisture.
 - When solvent remover is used, allow the surface to dry completely before applying developer.
4. Developing:
 - After agitating the **D-100** suspension, evenly spray a light slightly wet coating of developer onto the dry surface.
 - 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. A too heavy an application may conceal indications.
 - **D-100** is supplied in an aerosol spray can.
 - If **D-100** is to be applied with a paint spray gun, the spray gun should have a vaporising tip that produces a similar pattern to an aerosol.
 - In bulk applications, the spray tank should be pressurised to 15-30 psi and have a stirrer to keep the powder in suspension. 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 IPA to 2 parts **D-100**.
5. Inspection:
 - **D-100** dries rapidly and draws entrapped penetrant back to the surface using a combination of solvent and capillary action.
 - Indications can begin to appear instantly under visible or ultraviolet light, depending on the penetrant used.
 - A minimum of 5 minutes should elapse before making the final interpretation.
 - ASTM E1417 specifies a minimum developing time as 10 minutes and a maximum of 1 hour.

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Health & Safety

DUBL-CHEK D-100 is highly flammable. Use with adequate ventilation and away from spark, fire or open flames. Avoid prolonged or repeated contact with skin. Do not breathe gas, fumes, vapour or spray. Consult the MSDS for more Safety and Health information.

Get medical attention if irritation develops and persists. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

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