

TECHNICAL DATA SHEET

DUBL-CHEK DP- 40

Solvent Removable Visible Penetrant

Code 1486

DESCRIPTION

DUBL-CHEK DP-40 is a solvent removable, post emulsifiable visible penetrant and used to locate cracks, laps, pores, lack of bonding, and similar surface discontinuities. DP-40 can be used on nonporous parts including both ferrous and nonferrous metals, ceramics, and glass.

FEATURES & BENEFITS

- Brings flaws into sharper, clearer focus with more intense colour
- Performs more reliably over a greater range of temperatures
- DP-40 meets stringent low sulfur and chloride requirements
- Long lasting flaw mark indications; less fading

PHYSICAL PROPERTIES

Colour:	Purple
Odour:	Low petroleum smell
Viscosity:	5.76 cSt @ 37°C
Flash Point:	110°C
Water Tolerance:	14%
Boiling Point:	226°C

SPECIFICATION COMPLIANCE

- SAE AMS 2644
- QPL AMS 2644 Listing
- MIL-I-25135 Revisions C, D & E
- ASME Code NDT, Sec V AS 2062

ORDERING INFORMATION

Product Code	Packaging
1486/400	Aerosol
486/42	3.8 Litres (1 gallon)
1486/51	18.9 litres 5 gallons)
1486/64	208 litres (55 gallons)

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

DIRECTIONS

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.

1. **Application:** Apply DP-40 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



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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. Hydrophilic Dip Method:

- I. **Pre-Wash:** Following the dwell, use a plain water rinse to remove most of the undrained penetrant from the surface. Use a coarse spray of ambient temperature water.
- II. **Immersion:** Immerse and agitate the part in 20-30% hydrophilic emulsifier solution. Immersion time and agitation time will vary with part geometry and surface condition.
- III. **Rinse:** Remove the part from the tank; clean with a coarse, plain water spray.

b. Hydrophilic Spray Method:

- I. **Wash:** Following the dwell, use an injection of 0.1 to 5.0% emulsifier solution to wash the excess penetrant from the part surface. Time and solution concentrations will vary with part geometry and surface conditions.
- II. **Rinse:** Use a coarse plain water spray to remove all traces of the emulsified penetrant.

c. Lipophilic Method:

- I. **Emulsification:** Following the dwell, dip the part into undiluted lipophilic emulsifier. Remove the part and allow the excess emulsifier to drain back into the tank. Parts with rough surfaces require longer drain times.
- II. **Rinse:** Use a coarse plain water spray to remove all traces of the emulsified penetrant.

d. Solvent Wipe Method: Remove as much excess penetrant as possible using a clean, lint free dry rag or towelling. Remove remaining penetrant film by wiping with a rag or towelling 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 re-circulating oven set no higher than 71°C is suggested. Leave the part in the oven just long enough to evaporate surface moisture. Drying is improved by using pressurised air to disperse and remove as much excess water as possible before placing the part in to the

a. 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. Discontinuities are visible under appropriate lighting almost immediately but, allow sufficient developing time to enhance the flaw visibility.

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

STORAGE/SHELF LIFE

Keep away from moisture and sunlight. Keep the container closed when not in use. Temperature limit: 0°C to 50°C (40°F to 125°F). Shelf life: 36 months (3 years) from date of fill / manufacture. Refer to NDT Shelf Life and Storage Recommendations.

HEALTH & SAFETY

DUBL-CHEK DP-50 is a combustible liquid and when packaged within an aerosol is extremely 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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