

## TECHNICAL DATA SHEET

# HI-TEMP D-350

## High Temperature Developer

Code 1501

### DESCRIPTION

HI-TEMP D-350 is a high temperature developer used to enhance penetrant indications on parts at elevated temperatures. D-350 is the developer step in a three-part high temperature system. HI-TEMP KO-17 penetrant and HI-TEMP KO-19 remover is used in this HI-TEMP penetrant system. D-350 complies with low sulfur and low halogen requirements.

### FEATURES & BENEFITS

- Develop indications at elevated temperatures
- Meets the ASME code qualification procedure compliance
- Meets the requirements for low sulfur and halogen

### PHYSICAL PROPERTIES

Colour: White Suspended Particles  
Flash Point: 11.7°C  
Boiling Point: 82.0°C  
Specific Gravity: 0.79

### SPECIFICATION COMPLIANCE

- SAE AMS 2644
- QPL MIL-I-25135
- ASME Code NDT Sec. V

### ORDERING INFORMATION

Product Code	Packaging
1501/400	Aerosol



### 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 download from [www.callington.com](http://www.callington.com)

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### 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 HI-TEMP KO-17 penetrant by spray or brush to a limited area. The area to which the penetrant is to be applied should not be too large, so processing can be completed within penetrant and developer dwell time restraints. The size of the area will vary with inspection temperatures, part geometry, and operator experience.
- 2. Dwell Time:** The penetrant must be allowed to dwell on the part surface to promote the penetrant time to enter any surface flaws. At higher temperatures, penetration occurs more quickly.

07.2°C - 176.7°C	30sec - 1min
79.4°C - 107.2°C	1min - 2min
51.7°C - 79.4°C	2min - 3min
23.9°C - 51.7°C	3min - 10min
10°C - 23.9°C	10min - 30min

Allowances must be made for contamination levels and flaw sizes.

- 3. Removal:** Wipe the surface with paper or soft clean cloth towels to remove as much KO-17 as possible from the part surface. Spray KO-19 remover directly onto the surface of the part in a thin coat and immediately wipe from the part surface. The part is then wiped with a water saturated towel or cloth to remove the last traces of penetrant. Finally, a dry wipe is used to remove any water from the part.
- 4. Drying:** Use paper or cloth towelling to dry the part surface thoroughly. Extra drying time before applying developer to heated parts should not be required.
- 5. Developing: D-350** developer should be sprayed on the part surface from a distance of 150mm immediately after the excess penetrant has been removed and the part has dried. Apply a thin even coat, two or three thin coats are preferred to a single, heavy coat. Make sure the developer has been agitated to ensure suspension of powder.
- 6. Inspection:** Observe the surface for defect indication formation while the developer is applied. Surface examination should begin within a minute or two after developer application. Final surface examination should be completed as quickly as practical, and within ten or fifteen minutes.

### STORAGE/SHELF LIFE

Keep away from moisture and sunlight. Temperature limit: 0°C to 50°C. Shelf life: 36 months (3 years) from date of fill / manufacture. Refer to NDT Shelf Life and Storage Recommendations.

### HEALTH & SAFETY

**HI-TEMP KO-19** should be used 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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