

## TECHNICAL DATA SHEET

# HI-TEMP KO-17

## HIGH TEMPERATURE PENETRANT

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**Description:** HI-TEMP KO-17 penetrant is a visible dye penetrant used to find discontinuities on surfaces at elevated temperatures, up to 176.7°C. **KO-17** saves time by allowing the inspection to take place at pre-heated and elevated temperatures. Complies with low sulfur and low halogen requirements. **KO-17** is effective at high temperatures because heat drives contaminants from the surface and helps to expand discontinuities trapping more penetrant and giving stronger indications.

### Properties

Colour:	Red
Viscosity:	31.4 cSt @ 100°F
Flash Point:	186.7°C
Boiling Point:	226.7°C
Specific gravity:	0.99

### Companion DUBL-CHEK Products

HI-TEMP D-350 Developer	HI-TEMP KO-19 Remover
DUBL-CHEK D-100 Developer	

### Packaging

Aerosol (12 aerosols per carton)	Product Code: 1500/400
3.8L	Product Code: 1500/42
18.9L	Product Code: 1500/51

### 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 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

### 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](http://www.callington.com)

### Special Features

Used to find surface discontinuities at elevated temperatures.  
Meets the ASME code qualification procedure compliance.  
Meets the requirements for low sulfur and halogen.  
Requires less dwell time.

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### 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.

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.

107.2°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.

### Health & Safety

**HI-TEMP KO-17** 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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