

TECHNICAL DATA SHEET

DUBL-CHEK HM-604

Water Washable Fluorescent Penetrant

Code 1496

DESCRIPTION

DUBL-CHEK HM-604 is a Level 3, Method A & C, Water Washable, Fluorescent Penetrant for inspecting castings, extrusions and similar parts. HM-604 is a versatile, general purpose penetrant for use on a variety of materials, including aluminum and magnesium. Complies with low sulfur and low halogen requirements. HM-604 has been used by aerospace, airframe, turbine engine and missile manufacturers for over a decade.

FEATURES & BENEFITS

- Low to near zero background for assured indication visibility
- Sharp, precise flaw indication for rapid interpretation
- Excellent electrostatic spray capability
- Long material tank life due to formula stability and non-volatility
- Low material consumption (low drag out) due to low viscosity
- Surfactant base bio-degradable penetrant

PHYSICAL PROPERTIES

Colour:	Green
Viscosity:	25.6 cSt @ 37°C
Fluorescence:	Yellow/Green
Water Tolerance:	24%
Flash Point:	110°C

SPECIFICATION COMPLIANCE

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

ORDERING INFORMATION

Product Code	Packaging
1496/400	Aerosol
1496/42	3.8 litres (1 gallon)
1496/51	18.9 liters (5 gallons)
1496/64	208 liters (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

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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 HM-604 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 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. **Water Wash Method:** Use ambient temperature water to rinse HM-604 from the part surface. To avoid washing entrapped penetrant from surface flaws do not use high water pressure temperatures and avoid prolonged washing times.
 - b. **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. 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 into the oven.
 - b. When solvent remover is used, allow the surface to dry completely before applying developer
5. **Developing:** Apply the developer by cloud, dusting, spray, or dip using the appropriate developer. Flaw marks are visible under black light almost immediately but allow sufficient developing time to enhance the flaw visibility.
6. **Inspection:** Inspect parts under appropriate ultraviolet UV-A 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. Shelf life: 36 months (3 years) from date of fill / manufacture. Refer to NDT Shelf Life and Storage Recommendations

HEALTH & SAFETY

DUBL-CHEK HM-604 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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Created 1st September 2020 Date Printed 18/10/2022 11:36 AM