

**TECHNICAL DATA SHEET**

# DUBL-CHEK HM-604

## *SOLVENT REMOVABLE/WATER WASHABLE FLUORESCENT PENETRANT*

**Description:** **DUBL-CHEK HM-604** is a Level 3, Method A, 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 aluminium 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.

**Properties**

Colour: Green  
Viscosity: 26.5 cSt @ 37°C  
Fluorescence: Yellow/Green  
Water Tolerance: 24%  
Flash Point: 110°C

**Companion DUBL-CHEK Products**

D-90G Dry Powder Developer	D-100 Non-Aqueous Developer
D-110A Water Suspendable Developer	D-106 Non-Aqueous Developer
DR-60 Solvent Remover	DR-64 Solvent Remover

**Packaging**

Aerosol (12 aerosols/carton)	Product Code: 1496/400
3.8L	Product Code: 1496/42
18.9L	Product Code: 1496/51
208L	Product Code: 1496/64

**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 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

**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**

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.

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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 **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 in to 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.

### 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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