

# 7HF

## OIL-BASED VISIBLE MAGNETIC PARTICLE SUSPENSION

### 黑色油基磁悬液

7HF is a highly-sensitive oil-based magnetic particle suspension aerosol for nonfluorescent (visible) wet method magnetic particle testing. 7HF provides clear, strong indications and are ideal for locating fine and medium discontinuities on finished parts. It is ideal for field testing, spot inspections and places where bulk processing is impractical.

7HF是一款喷雾罐装高灵敏度油基磁悬液，用于非荧光湿法磁粉检测。7HF适合检测制成品上细微和中等的间断，能形成清晰的缺陷指示。7HF适合外场检测以及其他不方便使用散装磁悬液的地方。

7HF is often used with WCP-2 white contrast paint to improve contrast and inspection sensitivity. This process is ideal for remote inspections of tubing, piping and large structures.

7HF通常和WCP-2反差增强剂配合使用，用来提高对比度和检测灵敏度。适合野外检测，例如管道、大型结构件。

#### BENEFITS 优势

##### Maximize indication detection

###### 缺陷指示最清楚

- Find indications of all shapes and sizes thanks to the smallest particle on the market.  
与市场上同类产品相比，7HF具有最小的颗粒度，可检测出各种形状和尺寸的缺陷。
- Heavy buildup of highly magnetic particles around all leakage fields make for heavy-contrast indications, especially when used with WCP-2 white contrast paint.  
高导磁率的磁粉易于被漏磁场吸附，形成高对比度的磁痕，尤其是与WCP-2白色反差增强剂配合使用。

##### Convenient to use

###### 使用方便

- Inspect in all conditions without the need for darkness or UV lights.  
可应用于各种使用环境中，无需配备暗房或者紫外灯。
- The visible particles come in a convenient, aerosol format to be easily carried and used in the field.  
采用喷雾灌包装，易于携带，适合外场操作。

##### Wide application versatility

###### 应用范围广

- Inspect a wide range of components without fear of corrosion or specification non-conformance.  
可用于检测多种类型的工件，无需担忧工件生锈或者不符合标准。

#### FEATURES 特性

- Clear indications under visible light  
可见光下清晰的缺陷指示
- Heavy particle buildup  
磁粉易聚集形成磁痕
- Great particle mobility  
良好的移动性
- Protects parts and equipment against corrosion  
防止工件或设备锈蚀
- Broad spray pattern provides even surface coverage over large areas  
大喷射角，能覆盖大的工作面
- Superior surface wetting  
优异的表面润湿性能
- Very small particle size  
超细颗粒度
- Works in visible light  
可见光下工作
- Oil-based formula  
油基配方
- Very low toxicity  
极低的毒性
- Low odor  
低气味

**SPECIFICATIONS 符合规范**

- AMS 3043
- ASTM E709
- ASTM E1444
- ASME BPVC
- Boeing PS-21201
- ISO 9934
- MIL-STD-2132
- NAVSEA 250-1500-1
- NAVSEA T9074-AS-GIB-010/271

**APPLICATIONS 应用**

**Defect location:** surface and slightly subsurface  
**缺陷位置:** 表面及近表面缺陷

**Ideal for 适用于**

- Detecting fine and medium discontinuities  
检测细微及中等尺寸的不连续
- Field testing 外场检测
- Spot inspections 现场检测
- In-service inspections 在役检测
- Machined parts 机加工件
- Light surfaces 光洁表面
- Difficult to reach areas 难以触及的区域

**Defect examples 缺陷类型**

- Inclusions 夹杂
- Seams 裂缝
- Shrink cracks 收缩裂纹
- Tears 撕裂
- Laps 折叠
- Flakes 白点
- Welding defects 焊接缺陷
- Grinding cracks 磨削裂纹
- Quenching cracks 淬火裂纹
- Fatigue cracks 疲劳裂纹

**PROPERTIES 属性**

|                                  |                                                    |
|----------------------------------|----------------------------------------------------|
| Appearance 外观                    | Oily liquid and fine particle solution<br>油基细颗粒悬浮液 |
| Color in Visible Light<br>可见光下颜色 | Black 黑色                                           |
| Odor 气味                          | Odorless 无味                                        |
| Mean Particle Size 平均粒径*         | < 2 µm                                             |
| SAE Sensitivity SAE 灵敏度**        | > 6                                                |
| Flash Point 闪点                   | > 200°F / 93°C                                     |

\* As determined by industry-typical method for measuring particle size.  
用工业上通用的方法测试颗粒度。

\*\* Representative of the number of indications on a tool steel ring as defined in ASTM E1444.  
ASTM E1444中定义的工具钢环形试块上能显示的孔数。

**USE RECOMMENDATIONS 使用推荐**

|                         |                                                                                    |
|-------------------------|------------------------------------------------------------------------------------|
| NDT Method 无损检测方法       | Magnetic Particle Testing, Nonfluorescent / Visible, Wet Method<br>磁粉检测, 非荧光磁粉, 湿法 |
| Suspension Vehicle 载液   | Carrier II (petroleum distillate)<br>Carrier II (石油馏出物)                            |
| Required Equipment 设备要求 | Magnetizing device 磁化装置                                                            |
| Temperature range 温度范围† | 55 - 120°F / 13 - 49°C                                                             |
| Settling Volume 沉淀量     | 1.20 – 2.40 mL                                                                     |
| Coverage 喷涂面积           | 1 aerosol can will cover approximately<br>65 ft² (6 m²)<br>约 6m²/ 罐                |

† Particle integrity and mobility may decline beyond these temperature limits.  
超出此温度范围, 磁粉的完整性和流动性可能下降。

**INSTRUCTIONS FOR USE 使用指南**

Use 7HF with appropriate magnetization procedure and equipment. For best results, all components, parts, or areas to be tested should be clean and dry prior to testing to provide an optimal test surface and reduce particle suspension contamination.

使用7HF时, 应该采用适当的磁化装置和检测工艺。为达到最佳检测效果, 在检测前, 需要对所有被检的组件、工件或被检区域进行清洗和干燥, 确保有一个最佳的工作面, 同时减少磁悬液的污染。

Shake the can well before use and occasionally during application to ensure suspension uniformity and concentration. Hold the can 7 to 9 inches (18 to 24 cm) from the area to be tested. Using the continuous or residual application method, spray particle suspension over the test area until it is completely covered. Use with WCP-2 to improve contrast and inspection sensitivity. Inspect under visible light. Use in a well-ventilated area. To verify particle concentration, perform a sensitivity check using a known test standard prior to inspection.

使用前请充分摇匀, 施加磁悬液的过程中也间歇性的摇动罐子, 以确保磁悬液的均匀性和浓度。距离工作面18~24cm喷射磁悬液。采用连续法或剩磁法检测时, 将磁悬液喷涂到工作面, 使工作面被完全覆盖。需要的时候, 可以使用WCP-2反差增强剂, 用来提高显示的对比度和灵敏度。在通风良好的区域使用。检测前, 按标准对磁悬液的浓度、灵敏度进行确认。

**REMOVAL 清除**

All components, parts, or inspection areas must be properly demagnetized before cleaning to ensure easy particle removal. Cleaned parts may be treated with a temporary film protective coating if longer corrosion protection is required.

在清理前对组件、工件、检测区域进行退磁, 以便磁粉能从表面顺利清除。如果有较长时间的防腐要求, 请在清洗结束后, 对工件进行防腐处理。

**STORAGE 储存**

Store in a well-ventilated area away from magnetizing equipment and heat sources. Product age, exposure to elevated temperatures, and/or exposure to a strong magnetic field may adversely affect particle redistribution. Refer to Safety Data Sheet for additional storage instructions.

储存在通风良好的区域, 远离磁化装置和热源。暴露在高温或/和强磁场环境下可能对颗粒物的再分散性有不良的影响。详细的储存说明见SDS。

**PACKAGING 包装形式**

|             |                                      |
|-------------|--------------------------------------|
| 01-1580-78C | Aerosol can (case of 12) 气雾罐 (12罐/箱) |
| 01-1580-50C | 20L pail 20升桶                        |

**HEALTH AND SAFETY 健康与安全**

Review all relevant health and safety information before using this product. For complete health and safety information, refer to the product Safety Data Sheet, which is available at [www.magnaflux.cn](http://www.magnaflux.cn).

产品使用前请阅读相关的健康和安全信息。完整的健康和安全信息参考[www.magnaflux.cn](http://www.magnaflux.cn)上的SDS (安全数据表)。