

ZP-5B

WATER SUSPENSIBLE DEVELOPER

水悬浮型显像剂

As a complementary developer for penetrant inspections, ZP-5B forms an opaque white coating that makes a contrasting background for indications. It is typically used for a wide variety of testing materials such as automotive, off-highway equipment and farm equipment. Typical parts include welds, castings, forgings, leak testing, pressure vessels, aircraft, marine, construction, maintenance, petroleum pipelines, power plant components, and general metalwork. The developer tank must be agitated during the penetrant testing process.

作为一款辅助渗透检测的显像剂，ZP-5B会形成一层不透明白色涂层为缺陷的显示提供鲜明的对比背景。它可以广泛用于各种材料的测试比如汽车，非公路用设备，农用设备等，典型应用有焊接，铸造，锻造，测漏，压力容器，航天器，船舶，建筑，维修，石油管道，发电厂组件以及一般金属加工等。使用时显像剂槽必需要保持搅拌。

ZP-5B is listed on the QPL SAE AMS 2644 Qualified Product List.

ZP-5B已被列入QPL SAE AMS 2644合格产品目录并且被普惠公司批准和使用。

BENEFITS 优势

- Non-flammable
不可燃

SPECIFICATIONS COMPLIANCE 符合规范

- AECL
- AMS 2644
- AMS 2647
- ASME
- ASTM E1417
- ASTM E165
- Boeing BAC 5423 PSD 6-46 or 8-4
- GE P3TF2
- MIL-STD-2132
- MIL-STD-271
- QPL SAE AMS 2644

PROPERTIES 属性

Density 密度	481 kg/m ³
NPE-Free 不含烷基酚	Yes 不含

APPLICATIONS 应用

Defect location: open to surface

缺陷位置：表面开口缺陷

Ideal for 适用于

- Castings 铸件
- Forgings 锻件

Defect examples 缺陷类型

- Cracks 裂纹
- Seams 裂缝

USE RECOMMENDATIONS 使用推荐

NDT Method 无损检测方法	Penetrant Testing 渗透检测
Form (s) 显像方式	c
Recommended Concentration Range 推荐浓度范围	Fluorescent Testing 荧光检测: 60 - 120 g/L Visible Testing 着色检测: 120 - 240 g/L
Temperature Range 温度范围	4 - 48°C

INSTRUCTIONS FOR USE 使用指南

ZP-5B developer bath can be applied by immersion dip, spray or flow on techniques and must be continuously agitated during use to ensure the developer particles remain suspended during processing. If the immersion dip application is used, care must be taken to avoid transferring penetrant into the developer bath. Complete removal of surface penetrant will prolong the developer bath life. The developer bath temperature should not exceed 120°F / 48°C. If spray or flow-on techniques are used, care should be taken to avoid foaming as foam bubbles will create holes in the developer film. Use ZAF-2 anti-foaming additive if necessary.

ZP-4B可以使用浸泡, 喷涂, 浸蘸或流动覆盖等方法施涂, 并且在使用时必须保持搅拌以确保显像剂颗粒保持悬浮。如果使用浸蘸工艺需要小心避免渗透液进入显像槽。彻底清除表面多余渗透液可以延长显像槽使用寿命。显像槽温度不能超过48°C, 如果使用喷涂或者流动覆盖等方式, 使用过程中请注意避免泡沫产生, 泡沫会影响显像剂成膜, 造成显像剂空白, 导致漏检。如有必要请使用ZAF-2消泡剂。

Developer bath is applied after the surface penetrant has been removed. Complete coverage of the part is essential to quality inspection. The application time is only long enough to cover the part completely. Additional contact with the developer bath may result in reduced sensitivity due to removal of penetrant from shallow discontinuities by detergent action. For best results, forced warm air drying (140°F / 60°C) is recommended after developer application. Once the developer is dry, the part should be removed from the dryer to prevent degrading the penetrant's visibility.

显像剂槽浴使用前请清洗零件表面的多余渗透液。使用时请确保零部件被显像剂完全覆盖。使用时间只需要满足显像剂溶液完全覆盖零部件即可。过长时间浸泡会将浅裂纹中的渗透液洗掉从而降低检测灵敏度。要得到最佳使用效果, 使用显像剂后推荐使用暖风(60°C)烘干。当显像剂吹干成膜后需要将零部件移出烘干设备以减少渗透液热衰减对灵敏度的影响。

The developer film can be washed off with water spray. If the coating has been baked on or does not wash completely, brushing should be employed along with the water spray to remove the developer completely.

显像剂膜可以用水喷洗, 如果涂层被烤在表面很难彻底清洗, 可以使用刷洗方法, 配合清水喷洗彻底去除显像剂。

Maintenance Recommendations 维护建议

Developer bath concentration can be monitored using a hydrometer or by taking a known volume of the bath, evaporating off the water and then weighing the residue. When using a hydrometer, refer to the table provided below. Density measurement of aqueous suspensions to check concentration is not very accurate but is provided as a convenient guide to estimate concentration of bath. Mix until particles are fully dispersed before measurement.

显像剂料槽浓度需要使用液体比重计监测或者使用取一定量槽液, 蒸发掉水分并称量残余物的方法监测。如果使用液体比重计请查看以下比重和浓度表格, 比重测量不透明的悬浮液体的浓度并不精确, 但是可以方便估算槽浴的大概浓度。测量前需要搅拌使颗粒彻底分散。

Concentration (lb/gal) 浓度(lb/gal)	Concentration (g/L) 浓度 (g/L)	Specific Gravity at 21°C 比重21°C
0.50	60	1.035
0.75	90	1.052
1.00	120	1.065
1.25	150	1.085
1.50	180	1.098
2.00	240	1.120

PREPARATION INSTRUCTIONS 配制指南

Developer tank should be clean before developer bath is mixed. Fill the tank with the appropriate amount of water and slowly add the appropriate amount of developer powder to the water while stirring or agitating bath until it is completely dissolved. To speed up bath preparation, warm water can be used, however developer bath temperature should never exceed 120°F / 48°C. Developer powder is dusty and use of a simple filter mask may be desirable during handling.

使用前显像剂料槽需要彻底清洗。在料槽中加入适量的水并开始搅拌, 同时缓慢添加适量显像剂粉末, 持续搅拌直到显像剂完全分散。如需加速显像剂分散可以使用温水但请注意水温不能超过48°C。显像剂粉末非常容易产生粉尘, 在使用时可能需要适当的面具防护。

PACKAGING 包装形式

01-3341-81

25 lb / 11.3 kg pail 桶

HEALTH AND SAFETY 健康和安全

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.

产品使用前请阅读相关的健康和安全管理信息。完整的健康和安全管理信息参考 www.magnaflux.cn 上的SDS(安全数据表)。