

ZL-27A

Level 3 Post Emulsifiable Fluorescent Penetrant

Post-emulsifiable ZL-27A is a Level 3, high-sensitivity Type 1 penetrant designed for inspections which require maximum process control and reliability, such as safety-critical aerospace testing.

Since ZL-27A is not water soluble, there is minimal risk of this penetrant being removed from a fine or shallow defect through over-washing to provide the highest reliability of any penetrant inspection method.

ZL-27A has a high flash point and provides long tank life when used in open dip tanks, but this penetrant can also be applied in a variety of other ways, including electrostatic spray.

To remove surface ZL-27A penetrant before developer application, use ZE-4E Method B lipophilic emulsifier or ZR-10E Method D hydrophilic emulsifier can be used.

ZL-27A is listed on the QPL SAE AMS 2644 Qualified Product List and is approved for use by Pratt & Whitney.



BENEFITS

Improve indication detection

- Clear, bright indications are easier to detect due to high UV and thermal stability – even for small flaws and discontinuities
- Indications stand out more since background fluorescence is minimized; emulsifiers only remove surface penetrant without the risk of over-washing

Maximize penetrant inspection process control

- Prevents over-washing since ZL-27A cannot be removed with water (unless combined with an emulsifier)
- PE penetrant system is less susceptible to human error since only surface penetrant is removed in the final rinse stage

Wide range of inspections

- Inspect a wide range of high-value components without fear of corrosion or specification non-conformance
- Meets all major industry and NDT specification requirements, including Aerospace Prime and OEM specs, AMS 2644 and ISO 3452

Maximize operator comfort and safety

- Promotes better inspection quality by providing the operator with a more comfortable work environment
- Reduces discomfort from strong odors
- Exceeds all EHS requirements

FEATURES

- Level 3 high sensitivity
- Post emulsifiable
- Bright indications
- Resists over-washing or over-removal
- High flash point
- Wide range of application methods
- Low odor
- Very low toxicity
- Alloy compatibility
- High thermal resistance
- High UV stability
- QPL SAE AMS 2644 Qualified Product List
- Approved for use by Pratt & Whitney

SPECIFICATION COMPLIANCE

- AECL
- AMS 2644
- ASME BPVC
- ASTM E1417
- ASTM E165
- Boeing BAC 5423 PSD 6-46 or 8-4
- Boeing PS-21202
- ISO 3452
- MIL-STD-2132
- MIL-STD-271
- NAVSEA T9074-AS-GIB-010/271
- Pratt & Whitney PMC 4353
- QPL SAE AMS 2644

PROPERTIES

| | |
|--|-------------------------|
| Flash Point | > 200°F / 93°C |
| Density | 0.93 g/cc / 7.72 lb/gal |
| Viscosity (at 100°F / 38°C) | 9.65 cs |
| NPE-Free | Yes |

APPLICATIONS

Defect location: open to surface

Ideal for:

- Detecting fine discontinuities
- Critical components
- Precision castings
- Precision forgings
- Machined components
- Immersion dip tank
- Electrostatic spray

Defect examples:

- Fine cracks
- Seams
- Porosity

USE RECOMMENDATIONS

| | |
|----------------------------|-----------------------------------|
| NDT Method | Penetrant Testing, Fluorescent |
| Type | 1 |
| Method(s) | B / C / D |
| Sensitivity Level | 3, high sensitivity |
| Required Equipment | UV light source |
| Usage Temperature | 40 to 125°F / 5 to 52°C |
| Storage Temperature | 50 to 86°F / 10 to 30°C |

PACKAGING

| | |
|---------------------------|------------|
| 1 gal / 3.78 L, case of 4 | 01-3187-35 |
| 5 gal / 18.9 L pail | 01-3187-40 |
| 20 gal / 75.7 L drum | 01-3187-30 |
| 55 gal / 208 L drum | 01-3187-45 |

HEALTH AND SAFETY

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.com.