

ZL-425

Level 1 Water-Based, Water-Washable Fluorescent Penetrant

ZL-425 is a water-based, water-washable fluorescent penetrant used for finding indications in castings, forgings, extrusions and other materials with rough surfaces commonly found in automotive part applications. ZL-425 is an ideal solution when waste water produced during the inspection process is a concern for the operation. ZL-425 is water based and contains no petroleum distillates which may allow its rinse water to be disposed of directly into the sewage system depending on local regulations.

The penetrant features excellent rinse removability and is self-developing which means that separate developer may not be necessary depending on the application.

ZL-425 is designed to be environmentally sensitive while meeting industry approvals, including EN ISO 3452-2 and AMS 2644, and can be used in place of any conventional water-washable fluorescent penetrant.



BENEFITS

Reduce environmental footprint and waste-water pollutants

- Reduce water treatment costs and discharge waste process water directly into the sewage system (depending on local regulations) due to minimal water-based contaminants.
- Meet or exceed local discharge regulations with low Biochemical Oxygen Demand (BOD) and Chemical Oxygen Demand (COD) levels.
- Support a healthy environment with water-based penetrants that have minimal occupational health and safety impacts.

Reliably speed up inspection and wash processes

- Identify bright indications with superior sensitivity and low fluorescent background interference.
- Increase throughput and reduce costs by eliminating the developer step of inspection processes depending on procedures and requirements.
- Rapid rinse and post inspection washing of parts thanks to excellent washability properties, due to trade secret chemistry.

FEATURES

- Level 1, low sensitivity
- Hydrocarbon-free
- Biodegradable
- Excellent water wash removability
- Developer is not required

SPECIFICATION COMPLIANCE

- ASME BPVC
- ASTM E165 / E165M-18
- ISO 3452-2
- MIL-STD-2132D
- NAVSEA T9074-AS-GIB-010/271
- QPL SAE AMS 2644G

APPLICATIONS

Defect location: open to surface

Ideal for:

- Use in the automotive industry
- In applications where traditional petroleum solvent-based penetrants may attack the test surface, such as plastics.
- Castings
- Forgings
- Extrusions
- Ferrous and non-ferrous
- Aluminum
- Steel
- Nickel
- Titanium

USE RECOMMENDATIONS

Cleaner/remover	SKC-S
Dry developer	ZP-4B
Solvent-based developers	SKD-S2, ZP-9F
UV lamp	EV6000, ST700

PROPERTIES

NDT Method	Fluorescent Penetrant
Type	1
Method(s)	A (W)
Sensitivity Level	1, low
Required Equipment	UV light source
Temperature range	40 to 125°F / 5 to 55°C
Flash Point	> 200°F / 100°C
Density	0.999 g/cc / 8.32 lb/gal (0.999 g/ml)
Viscosity (at 100°F/38°C)	14.2 cst (14.2 mm ² /s)
Water Content	57%
Biochemical Oxygen Demand (BOD) (SM 5210 B-2001)	360,000 mg/L
Chemical Oxygen Demand (COD) (SM 5220D-1997)	932,000 mg/l
NPE-Free	Yes

PART NUMBERS & PACKAGING

Packaging	Country of Origin	Part Number
55 gal / 208 L drum	United States	01-3425-45
275 gal / 1,040 L tote		01-3425-67
25 L drum	United Kingdom	056C217
200 L drum		056C218
1,000 L tote		056C219

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.