



ZL-400 Series

Water-Based, Water-Washable Fluorescent Penetrants

ZL-400 series is a water-based, water washable fluorescent penetrant used for finding indications in castings, forgings, extrusions and other materials commonly found in automotive part applications.

ZL-400 series is an ideal solution when waste water produced during the inspection process is a concern for the operation. The penetrants are water based and contain no petroleum distillates which may allow its rinse water to be disposed of directly into the sewage system depending on local regulations.

The penetrants feature excellent rinse removability, bright fluorescent sensitivity and may not require the use of developer depending on the application.

Reduce Waste-Water Pollutants and Environmental Footprint



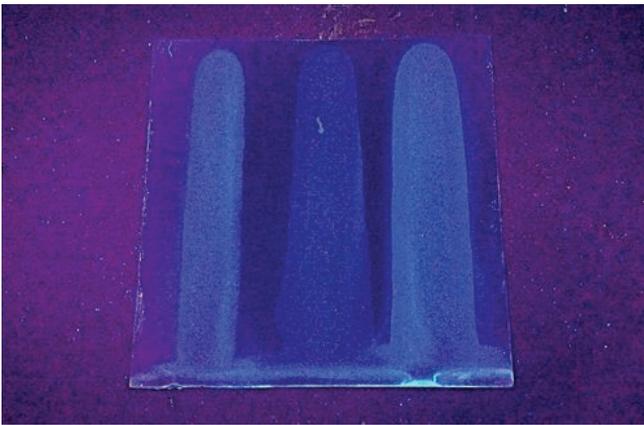
- Reduce water treatment costs and discharge waste process water directly into the sewage system (depending on local regulations) due to minimal water-based contaminants.
- Meet or exceed local discharge regulations with low Biochemical Oxygen Demand (BOD) and Chemical Oxygen Demand (COD) levels.
- Support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

Reliably Speed Up Inspection and Wash Processes



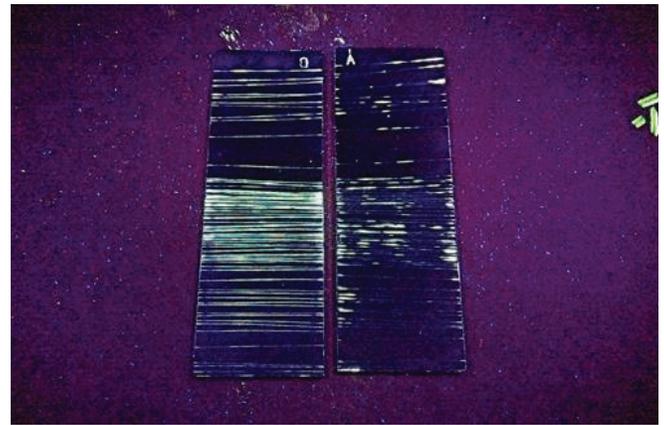
- Identify bright indications with superior sensitivity and low fluorescent background interference.
- Increase throughput and reduce costs by eliminating the developer step of inspection processes depending on procedures and requirements.
- Rapid rinse and post inspection washing of parts thanks to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

Washability



Left: Competitor A; Center: Magnaflux;
Right: Competitor B

Sensitivity



Left: Magnaflux;
Right: Equivalent Level 1 Competitor

Developer vs no developer



ISO 3452-3 reference testblock with ZL-400 series penetrant and developer.



ISO 3452-3 reference testblock with ZL-400 series penetrant only.

More information

Review all relevant product details and safety information before using this product. For complete product information, refer to the product Data Sheet and Safety Data Sheet, which is available at magnaflux.com.

Properties and Part Numbers

Product Name	ZL-405	ZL-425	ZL-440
Sensitivity Level	½	1	2
NPE Free	✓	✓	✓
ISO 3452-2	✓	✓	✓
AMS 2644 (QPL)		✓	✓
BOD/COD Properties			
BOD/COD Ratio	0.239	0.386	0.386
100% (BOD / COD)	110,000 / 461,000 mg/L	360,000 / 932,000 mg/L	380,000 / 985,000 mg/L
3% Dilution (BOD / COD)	3,300 / 13,830 mg/L	10,800 / 27,960 mg/L	11,400 / 29,550 mg/L
1% Dilution (BOD / COD)	1,100 / 4,610 mg/L	3,600 / 9,320 mg/L	3,800 / 9,850 mg/L
0.1% Dilution (BOD / COD)	110 / 461 mg/L	360 / 932 mg/L	380 / 985 mg/L
Part numbers (Country of origin)			
United States	55 gal: 01-3405-45 275 gal: 01-3405-67	55 gal: 01-3425-45 275 gal: 01-3425-67	55 gal: 01-3440-45 275 gal: 01-3440-67
United Kingdom	200 L: 056C212 1,000 L: 056C214	200 L: 056C218 1,000 L: 056C219	200 L: 056C230 1,000 L: 056C231

Note: BOD test method SM 5210 B-2001 and COD test method SM 5220 D-1997