

ZL-15B, ZL-19, ZL-60C, ZL-60D, ZL-67B, ZL-56

Water-washable Fluorescent Penetrants



ZYGLO® ZL-15B, ZL-19, ZL-60C, ZL-60D, ZL-67B and ZL-56 are fluorescent water-washable penetrants with excellent controlled washability over a wide temperature range. With a UV-A light source, indications will appear as a bright green-yellow fluorescence.

Our water-washable fluorescent penetrants are used in a wide range of sensitivity applications, from ultra-low to ultra-high. They exhibit outstanding penetrating characteristics, giving you maximum reliability in locating surface-open flaws and defects.

FEATURES

- Bright indications
- Excellent washability
- Wide range of sensitivity applications

APPLICATIONS

Defect location: open to surface

Ideal for:

- Castings
- Forgings
- Rough surface finish
- Seams
- Laps
- Cold shuts
- Laminations
- Cracks
- Delamination
- Porosity

COMPOSITION

A blend of non-ionic surfactants, petroleum distillate and fluorescent dyes.

USER RECOMMENDATIONS

NDT Method	Penetrant Testing, Fluorescent
Storage temperature	10°C to 30°C
Usage temperature	5°C to 55°C (bulk); -5°C to 50°C (aerosol)
Flash point	> 93°C
Coverage	20 - 30m ² per litre; 10 - 15m ² per aerosol
Cleaner/remover	SPOTCHECK® SKC-S
Dry developer	ZYGLO® ZP-4B
Solvent-based developers	SPOTCHECK® SKD-S2 ZYGLO® ZP-9F
Water-based developers	ZYGLO® ZP-14A ZYGLO® ZP-5B
UV lamp	EV6000

PRODUCT PROPERTIES

Form and colour	Green-yellow liquid
AMS 2644 class	Type 1, Method A
Sulphur content	< 300 ppm
Chloride content	< 300 ppm
Fluoride content	< 50 ppm
Sodium content	< 100 ppm

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	ZL-15B	ZL-19	ZL-60C	ZL-60D	ZL-67B	ZL-56
Density	0.86 g/cm ³	0.86 g/cm ³	0.88 g/cm ³	0.92 g/cm ³	0.95 g/cm ³	1.01 g/cm ³
Viscosity at 38°C	5.2 mm ² /s	5.6 mm ² /s	7.0 mm ² /s	10.6 mm ² /s	20.0 mm ² /s	19.0 mm ² /s
AMS 2644 sensitivity	Level 0.5 Ultra-low	Level 1 Low	Level 2 Medium	Level 2 Medium	Level 3 High	Level 4 Ultra-high
EN-ISO 3452 sensitivity	-	Level 1 Low	Level 2 Medium	-	Level 3 High	-

Like all Magnaflux materials, our water-washable fluorescent penetrants are closely controlled to ensure batch-to-batch consistency, optimum process control and inspection reliability.

SPECIFICATION COMPLIANCE

	ZL-15B	ZL-19	ZL-60C	ZL-60D	ZL-67B	ZL-56
AMS2644	✓	✓	✓	✓	✓	✓
ASME B & PV Code, Sec V	✓	✓	✓	✓	✓	✓
ASTM E1135			✓			
ASTM E165/E165M	✓	✓	✓	✓	✓	✓
ASTM E1417/E1417M	✓	✓	✓	✓	✓	✓
EN ISO 3452-2		✓*	✓		✓	
MIL-STD-2132D	✓	✓	✓	✓	✓	✓
MIL-STD-271F	✓	✓	✓	✓	✓	✓
Pratt & Whitney PMC		4350-2	4351-8	4351-2	4360-10	
Rolls Royce RRP 58003 (CSS 232)			✓	✓	✓	✓
SAFRAN Pr 5000/ln 5000			✓	✓		

* water absorbency 6.10, requirement of >5% not met

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INSTRUCTIONS FOR USE

Pre-clean the test part and allow to dry. The surface must be free from oil, grease and any other contaminant.

Apply the penetrant by immersion dip, brush, flow on, conventional or electrostatic spray. The test area must be completely covered with penetrant.

Allow contact time of 2 - 5 minutes minimum. 10 minutes should be adequate for most situations, although specific process specifications may require longer - check the controlling process specification (where applicable).

Remove excess penetrant by thoroughly spraying the test part with clean water at 10°C - 40°C. This should be carried out under a UV(A) source so you can monitor the penetrant removal.

Dry the test part by placing in a controlled recirculating warm air dryer at a temperature of 50°C - 70°C.

Apply a developer to maximise the sensitivity of the penetrant and to provide a white contrasting background. There are three types of suitable developer:

Dry powder

Free-flowing, lightweight powders which are applied to the dry component by powder storm, dusting, electrostatic spray or puffer.

Solvent-based

Quick-drying materials which are applied to the dry component by spraying.

Aqueous or water-based

Apply before drying by dipping or spraying. NB: To maximise penetrant sensitivity, do NOT leave parts in aqueous developers for any length of time.

Inspect your test part using a suitable UV source. Any defect indications will fluoresce a bright green-yellow when exposed UV(A) light at a peak wavelength of 365 nm.

If required, you can clean your test part after inspection. Developer residues can be removed either by wiping with a cloth or by a water and detergent wash. Penetrant residues can be removed by vapour degreasing or solvent soak.

HEALTH AND SAFETY

Review all relevant health and safety information before using this product. For complete health and safety information, refer to the Safety Data Sheets, which are available at eu.magnaflux.com.

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PACKAGING AND PART NUMBERS

ZL-15B**25 L**

056C061

ZL-19**25 L**

056C185

ZL-60C**25 L**

056C205

ZL-60D**25 L**

056C010

ZL-67B**25 L**

056C034

ZL-56**25 L**

056C201

**200 L**

056C062

**200 L**

056C186

**200 L**

056C206

**200 L**

056C011

**200 L**

056C035

**200 L**

056C202

**400
ml**

008A008 (x 10)