

**SUBJECT:** Zyglo ZL-27A Fluorescent Penetrant**BATCH No:** 2109474**MANUFACTURE DATE:** 03/09/2021**B.B.E.:** SEP 2026

## Inspection Certificate

Abnahmeprüfzeugnis DIN EN 10204 3.1  
Certificat De reception  
Certificado di collaudo  
Keuringsrapport

We hereby certify that when tested at the time of manufacture, the above material:

1. Meets the requirements of and has been tested for sulfur and halogens according to:
  - a) ASME Boiler and Pressure Vessel Code, 2019 Edition, Section V, Non-destructive Examination.
  - b) Anion analysis by ASTM D129 decomposition followed by Ion Chromatography method Annex A4.
  - c) ASTM E-165/E-165M-18, Paragraph 7.1.
  - d) MIL-STD-2132E, March 29, 2016, Paragraph 6.1.3.
  - e) EN ISO 3452-2

**Test results obtained were as follows:**

Ion	Batch Result
Sulfur:	0.0001 wt % of residue.
Chlorine + Fluorine:	0.0032 wt % of residue.

2. Meets the requirements of Rolls Royce RRP 58003 (CSS 232), SAFRAN Pr 5000 / In 5000B, AMS 2644H and ASTM E 1417/E 1417M-16 Paragraph 5.1& 6.5.1.

Penetrant brightness tested according to ASTM E 1135.

When tested according to paragraph 4.3.2 of AMS 2644H the following results were obtained:

4.2.2.1	Penetrant Tests	Section	Batch Result
	Flashpoint (PMCC)	3.3.3	106.5 °C
	Viscosity	3.3.4	8.89 mm <sup>2</sup> /s (cSt) @ 38°C
	Fluorescent Brightness	3.3.8.3.2	106.96 % of Standard (AMS FP-4PE)
	Penetrant Removability	3.3.8.6	Conforms
	Water Content	3.3.8.7	0.10 %

3. We further certify that the material does not contain mercury as a basic element and no mercury bearing equipment was used in its manufacture.

**Notes:**

1. Our batch number appears on the label of bulk containers. Aerosols have batch numbers printed on bottom of the container. Bulk materials have a minimum shelf life of 5 years from date of manufacture. Aerosols have a minimum shelf life of 3 years from date of manufacture.
2. Most specifications require test results stated in percent, but some require parts per million (ppm). To convert "percent" figures to "parts per million" move the decimal four places to the right.
3. MIL-STD-271, MIL-STD-2132 and ASME Sec V, all require that materials be subject to a procedure to evaporate off volatile solvents before analysis for Sulfur and Halogens. According to these specifications, only those residues higher than 0.005 g/100ml shall be analysed for Sulfur and Halogens. Lower residues shall be reported.
4. The above certification gives the results obtained at the time of manufacture. Age and use may alter the properties of any material.

Certification is issued under the auspices of the Quality Assurance Manager.



(Authorised Employee)

For and on behalf of MAGNAFLUX DIV OF ITW LTD

**SUBJECT:** Zyglo ZL-27A Fluorescent Penetrant

**BATCH No:** 2109474

**MANUFACTURE DATE:** 03/09/2021

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**SPECIFICATION:** EN ISO 3452-2.

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When tested at the time of manufacture the following results were obtained.

Einzeleigenschaft / Characteristic	Ermittlungen nach EN ISO 3452-2 Abschnitt	Anforderungen / Quality requirement	Ergebnis / Batch testing
Appearance	6.1	Equal to Std	Pass
Sensitivity	6.2	Equal to Level 3 reference system	Pass
Density	6.3	Nominal 0.931 g/cm <sup>3</sup> @ 20°C (Limits 0.884 – 0.978)	0.939 g/cm <sup>3</sup>
Viscosity	6.4	Nominal 8.67 mm <sup>2</sup> /s @ 38°C (Limits 7.80 – 9.54)	8.89 mm <sup>2</sup> /s
Flashpoint	6.5	Nominal 103°C (Limits 98°C Minimum)	106.5 °C
Fluorescent Brightness	6.7	100 % ± 10 % of Type Test Sample	106.96 %
Corrosive Properties	6.11	No Corrosion on Magnesium Alloy	Pass
Sulphur Content	6.12	< 200 ppm	1 ppm
Halogen Content	6.12	< 200 ppm	32 ppm
Water Content	6.20	(Water Washable Penetrants Only)	0.10 %

Vorstehende Angaben sind die Ergebnisse unserer Qualitätsprüfung. Sie entbinden den Käufer nicht von einer Eingangsprüfung und haben nicht die Bedeutung, die Eignung des Produktes für einen konkreten Einsatzzweck zuzusichern.

*The above information is derived from our quality checks. It does not relieve the purchaser from examining the product upon delivery and gives no assurance of the product for any particular purpose.*

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(Authorised Employee)

For and on behalf of MAGNAFLUX DIV OF ITW LTD

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### VENDOR'S REPORT - TEST RESULTS

#### REPORTS, MATERIALS CONTROL LABORATORY PRATT & WHITNEY AIRCRAFT (Plant to which material is shipped)

This is to certify that paragraph number 1 + 5 apply to the shipment described below (Insert at least one of the first 4, plus 5 if applicable)

- (Applicable to all raw material, to parts made from raw material furnished or purchased by vendor, or to assemblies of which some or all components are made from raw materials furnished or purchased by vendor) Material, parts, or components of assemblies have been inspected & accepted to the specifications involved, & results of tests required by PWA are as shown herein.
- (Applicable to parts or assembly components made from raw material furnished by PWA and not chemically or metallurgically treated by vendor so as to change surface or internal condition significantly) Parts or assemblies have been machined or formed from material furnished by PWA to make these parts or components of assemblies.
- (Applicable to parts or assembly components made from raw material furnished by PWA and chemically or metallurgically treated by vendor so as to change surface or internal condition significantly) Parts or components of assemblies have been made from raw material furnished by PWA to make these parts or components of assemblies. Parts, components of assemblies, or assemblies have been inspected and accepted to the specifications involved, and results of tests required by PWA are as shown herein.
- (Applicable to repaired or reworked raw material, parts or assemblies) The raw material, parts or assemblies have been reworked or repaired in accordance with PWA instructions, and are the same material, parts or assemblies returned for such reworking or repair, except for replacement of assembly components, in which case paragraphs 1 & 5 are also applicable.
- (Applicable to all assemblies, and to parts when specifically, authorised by purchaser) Results of all chemical and physical tests not shown below as well as all other evidence which shows acceptability of raw materials & assembly components, are on file and available for inspection at any reasonable time.

PART OR ASS'y NO (Size if no part no) <b>PMC 4353-2</b>	CHG.LTR	SUF.NO	SPECIFICATION AS ORDERED * PWA 300 Rev.	
QUANTITY	DATE SHIPPED	LOCATION OF PWA PLANT SHIPPED TO		PACK SUB NO
HEAT, LOT, CODE or BATCH NO <b>2109474</b>	RAW MATERIAL VENDOR		TYPE COMPOUND or CASTING <b>ZL-27A Penetrant</b>	PWA HEAT CODES

\* If material, parts or assemblies do not entirely conform to specification requirements, the deviation and authority for furnishing such material are indicated below:

#### Results of TESTS

PHYSICAL PROPERTIES	TEST RESULTS	PMC LIMITS (MINIMUM)	PMC LIMITS (MAXIMUM)
Flashpoint	106.5 °C	93°C	-
Kinematic Viscosity @ 38°C	8.89 mm <sup>2</sup> /s (cSt)	8.10	10.95
Water Content	0.10%	-	-
Fluorescent Brightness	106.96 %	90 %	-
Separation of Constituents - Homogenous	Pass	None	None

CHEMICAL PROPERTIES	TEST RESULTS	PMC LIMITS (MINIMUM)	PMC LIMITS (MAXIMUM)
Fluoride Content	3 ppm	-	≤ 50 ppm
Chloride Content	29 ppm	-	≤ 400 ppm
Sulfur Content	0.0001 %	-	≤ 0.100 %
Sodium Content	0.0008%	-	≤ 0.010 %

Magnaflux certifies that **ZL-27A** meets the requirements of **PMC 4353-2**.

Certification is issued under the auspices of the Quality Assurance Manager.

(Authorised Employee)  
For and on behalf of MAGNAFLUX DIV OF ITW LTD