Certification

Product Name	**Zyglo Developer ZP-4D**	Batch Number	**26L084**
Date	**11/25/2026**	Best By Date	**11/2031**
Classification	**Dry Powder Developer**	Purchase Order	

It is hereby certified that when tested at the time of manufacture, the above listed material and batch number meets the requirements of and has been tested for Sulfur and Halogens according to:

- ASME Boiler and Pressure Vessel Code, Section V, 2007-2025 Edition, Nondestructive Examination, Article 6 Paragraph T-641 and Article 24 as applicable.
- ASTM E-165/E-165M-23 Paragraph 7.1.
- NAVSEA T9074-AS-GIB-010/271 (September 11, 2014) Paragraphes 5.3.1 and 5.6.2
- MIL-STD-2132E, March 29, 2016, Paragraphs 7.1, 7.1.2 and 7.1.3, Appendix C, Paragraph 40.

The following test results were obtained:

Sulfur 86.69 ppm 0.0087 wt % CL+F 62.82 ppm 0.0063 wt %

It is further certified that this material does not contain mercury as a basic element and that no mercury bearing equipment has been used in its manufacture.

Specification: **ASTM E1417, Paragraph 5.1**

Meets requirements

Specification: **AMS 2644J**

When tested according to paragraph 4.3.2, Sampling Plan A, the following test results were obtained:

- 4.2.2.3 Developer Tests:

Test	Requirements	Result
Developer Fluorescence	3.3.10.2	PASS
Developer Removability	3.3.10.4	PASS
Redispersibility	3.3.10.5	NA

Specification: **Pratt Whitney Aircraft Results**

Vendor Report-Test Results

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

This is to certify that Paragraph Number1 & 5 apply to the shipment below: (insert at least one of the first 4, plus 5 if applicable).

1. (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 material furnished or purchased by vendor.) Material, parts, or components of assemblies have been inspected and accepted to the specifications involved, and results of tests required by PWA are shown herein.

2. (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.

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Glenview, IL 60025
P: 1-847-657-5300

3. (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 of components of assemblies have been made from raw material furnished by PWA to make these parts or components of assemblies. Parts, components of assemblies have been inspected and accepted to the specifications involved, and results of tests required by PWA are as show herein.

4. (Applicable to repaired or reworked raw material, parts or assemblies.) The raw materials, parts or assemblies have been reworked or repaired in accordance with Pratt & Whitney Aircraft 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.

5. (Applicable to all assemblies, and to parts when specifically authorized by purchaser). Results of all chemical and physical tests not shown below, as well as all other evidence which shows acceptability of raw materials and assembly components, are on file and available for inspection at any reasonable time.

PART OR ASS'Y NO. (Size if no Part No.) PMC 4356AF
CHG LTR:
SPECIFICATIONS AS ORDERED: *PWA 300 Rev. BV:
QUANTITY:
DATE SHIPPED:
QUANTITY:
DATE SHIPPED:
LOCATION OF PWA PLANT SHIPPED TO:
PACK SUB NO.:
PO NO:
HEAT, LOT CODE or BATCH NO: As listed above
RAW MATERIAL VENDOR:
TYPE COMPOUND or CASTING: Zyglo Developer ZP-4D
PWA HEATCODES:

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

Magnaflux certifies that Zyglo Developer ZP-4D meets the requirements of PMC 4356AF - 8

Test	**Limit**	**Result**
Appearance	White Fluffy Powder	PASS
Purity	No Yellow, Red, Green Fluorescence	PASS
Chemical Properties	**Limit**	**Result**
Fluoride Content	<= 50 ppm	<10
Chloride Content	<= 1000 ppm	63
Sulfur Content	<= 0.1000%	0.0087
Sodium Content	<=0.1000%	0.0200

It is further certified that this material does not contain mercury as a basic element and that no mercury bearing equipment has been used in its manufacture.

Approved by:

Quality Control Manager

Notes:
1. Our batch number appears on the bottom of all aerosol cans and on the label of all bulk containers.
2. Most specifications require test results to be 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-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 analyzed 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.

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