



ONE-STOP SERVICE FOR AEROSPACE (FAA) FLAMMABILITY TESTING

Blue Flame Lab is a market leader in aviation flammability testing and certification services. Managed by highly respected FAA Designated Engineering Representative (DER) Arun Kapur, Blue Flame's full complement of testing services provide a comprehensive package of support capabilities: engineering services, flammability test plan generation and approvals, 9G and 16G seating test coupon generation (using customer supplied dress cover material), test article conformity inspections, physical flammability testing and the generation of test reports and certification documentation.

OUR CAPABILITIES COVER ALL REQUIRED ASPECTS, FROM FLAMMABILITY TEST PLANNING TO FLAMMABILITY CERTIFICATION

The Lab's Seven Core Burn Test Capabilities include the following (per FAR 25.853 Appendix F):

- 1 Vertical Self-Extinguishing Test
- 2 Horizontal Burn Rate Test
- 3 45-Degree Test
- 4 60-Degree Test
- 5 Oil Burner Test
- 6 Fire Containment Test
- 7 Heat Release Test (coming soon)

Using state-of-the-art testing equipment, we offer premium quality service combined with reliable and repeatable results.

EXPERIENCED AND CAPABLE STAFF

- Blue Flame Lab has FAA DERs and DARs (Designated Airworthiness Representatives) on staff, with authority to perform conformity inspections, witness testing, and issue FAA Form 8110-3 flammability certification documentation.
- Blue Flame Lab has a 16G seating DER on staff with the authority to issue TSO amendments.
- Blue Flame Lab has full one-stop capabilities (see above).
- Blue Flame Lab offers rapid turnaround – saving time and money.
- Blue Flame Lab's team has extensive experience and industry knowledge to help its customers manage and mitigate risk.
- Blue Flame Lab serves both private and commercial aircraft operators, as well as OEMs, MRO facilities, completion centers, and outfitters.
- Blue Flame Lab has delegation to approve minor alterations related to Flammability.

Combined with J3 Aviation Solutions Inc.'s other manufacturing, engineering and certification capabilities, Blue Flame Lab is aviation's #1 one-stop facility for flammability testing.

J3 Aviation Solutions, Inc. dba Blue Flame Lab
600 PSI Drive, Boca Raton, FL 33431
(561) 866 - 3508



U.S. Department
of Transportation
**Federal Aviation
Administration**

FAA William J. Hughes Technical Center
Fire Safety Branch, ANG-E212
Atlantic City International Airport,
Atlantic City, NJ 08405

Date: December 19th, 2019

Ajit Kapur
General Manager
J3 Aviation Solutions, Inc.
d/ b/ a/ Blue Flame Lab
600 PSI Dr. STE 1
Boca Raton, FL 33431

Flammability Testing Facility

Dear Mr. Kapur:

Based on my review of your test facility on November 20th, 2019, I have determined that your equipment for use in the seat cushion oil burner test is compliant with the specifications described in Chapter 7 of the Aircraft Materials Fire Test Handbook. This letter does not imply any form of certification by the FAA. As the engineer responsible for the information outlined in Chapter 7 of the Handbook, it is in my opinion that your test equipment is configured and operating correctly for use in this fire test method.

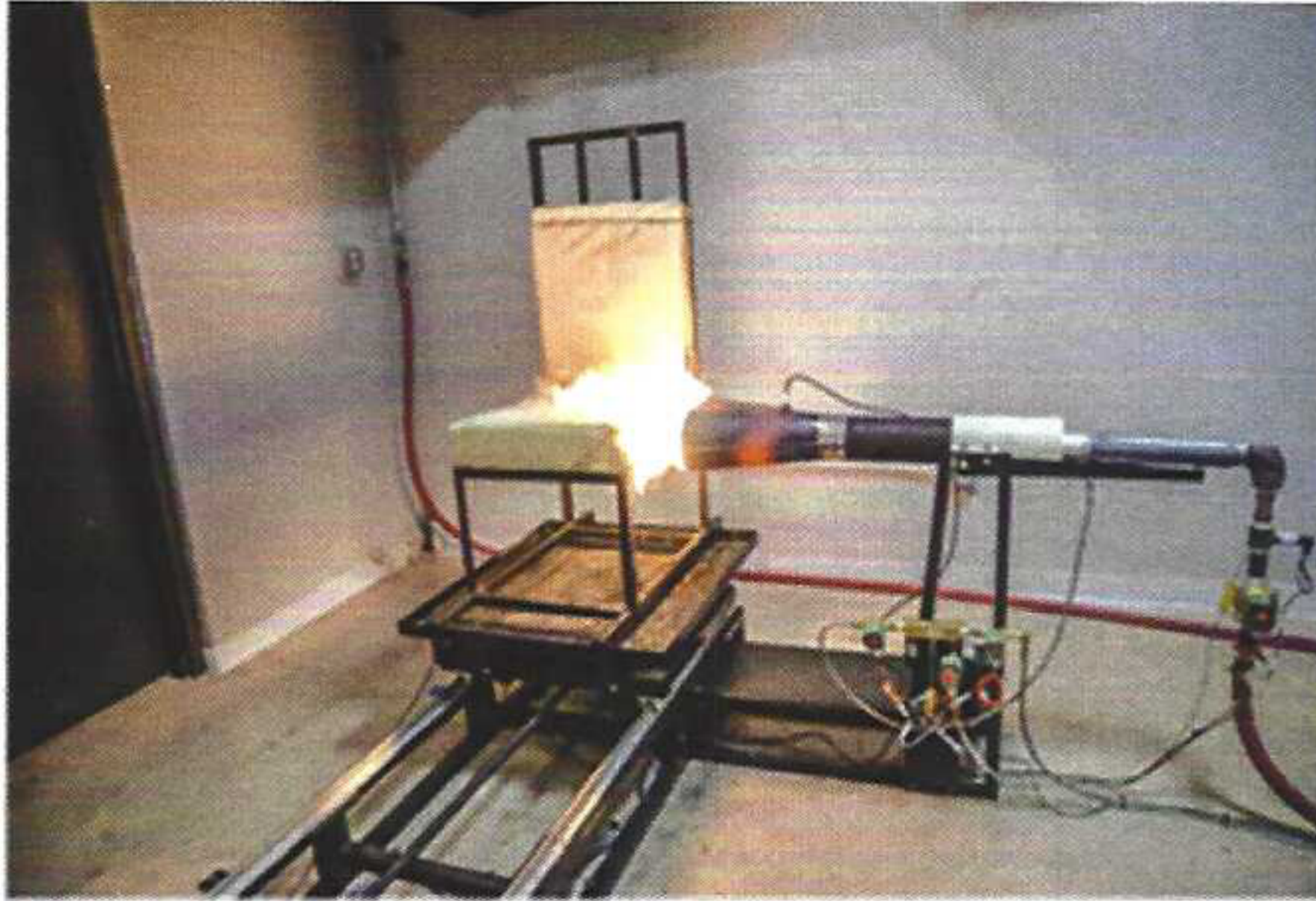
If you have any questions regarding this letter, please contact me at (609) 485-6952 or by email at timothy.salter@faa.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "Tim Salter".

Timothy A. Salter,
General Engineer
FAA William J. Hughes Technical Center
Fire Safety Branch

**Fire Safety Branch – ANG-E21
Sonic Burner Test:**



Sonic Burner at J3 Aviation Solutions

Tim Salter of the Fire Safety Branch witnessed seat cushion flammability tests using the FAA-developed sonic burner at J3 Aviation Solutions in Boca Raton, FL. The facility had recently finished constructing a new test cell and requested Fire Safety Branch expertise to ensure the test cell and burner were compliant with Chapter 7 of the current Aircraft Materials Fire Test Handbook. The facility operators wanted to ensure the sonic burner was operating correctly and not burning test samples more than what is typical of this test.

The Fire Safety Branch provided the lab with seat cushion test samples of known performance, which included three air flex cushions, three Dax foam cushions, and three standard fire-blocked cushions. All samples were covered in the same dress cover with a hook and loop closure.

This particular test cell is distinctive due to the HVAC-controlled inlet air system and the ventilation hood arrangement. These systems maintain consistent temperatures within the test cell of 70-85 °F while the burner is operating. The configuration of the vent hood and adjacent inlet air allow smoke to be drawn out of the test cell while keeping air currents inside to a minimum.

Before flammability testing of the samples began, researchers performed a check of the burner flame temperature, which indicated no abnormalities. All three types of seat cushion samples were then tested, and the results compared to those obtained at the Fire Safety Branch's facility. Burn length measurements and weight loss calculations (requirements of the test) were consistent, indicating the laboratory and burner were operating according to the acceptable FAA test guidelines.

Tim Marker, ANG-E212, 609-485-6469