



TITLE:	GUIDANCE ON FIRE TESTING RULES AND REGULATIONS	DOCUMENT:	IB-02
CLASSIFICATION:	INFORMATION BULLETIN	AEROBLAZE LABORATORY INC.	

PURPOSE. The purpose of this Information Bulletin is to provide guidance on the FAA’s rules and regulations regarding fire testing. This document is for informational use only. It may not be up-to-date or accurate and should only be used as a guide. Refer to your local FAA office for regulatory questions.

Airworthiness Standards

14 CFR	Airworthiness Standard for	Additional Information
Part 23	Normal, Utility, Acrobatic, and Commuter Category Airplanes	Appendix A
Part 25	Transport Category Airplanes	Appendix B
Part 27	Normal Category Rotorcraft	Appendix C
Part 29	Transport Category Rotorcraft	Appendix C

How to Use the Appendices

The tables in the appendices detail the various tests that Aeroblaze offers along with relevant information for each test. An example of how to read the tables is as follows:

*The **Vertical (60-sec)** test is typically used to show compliance with **25.853 & 25.855** and is used for **Type I** materials. The test criteria can be found in **Part I (a)(1)(i)** and the test procedure in **Part I (b)(4)**. Reference Fire Test Handbook **Chapter 1**.*

Test	Regulation (14 CFR 25)	Materials	Criteria (14 CFR 25, Appendix F)	Procedure (14 CFR 25, Appendix F)	Fire Test Handbook
Vertical (60-sec)	25.853 & 25.855	Type I	Part I (a)(1)(i)	Part I (b)(4)	Chapter 1

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Types of Materials and their Tests

Type	Materials	Test(s)
Type I	<ul style="list-style-type: none"> ▪ Interior Ceiling and Wall Panels ▪ Partitions ▪ Galley Structure ▪ Structural Flooring² ▪ Large Cabinets and Cabin Stowage Compartments <p>Note: Does not apply to under-seat stowage compartments and compartments for stowing small items such as magazines and maps.</p>	Vertical (60-sec) Smoke Density ¹ Heat Release ¹
Type II	<ul style="list-style-type: none"> ▪ Floor Covering ▪ Textiles & Fabrics ▪ Padding ▪ Leather ▪ Trays & Galley Furnishings ▪ Electrical Conduit ▪ Air Ducting ▪ Joint and Edge Covering ▪ Cargo Covers ▪ Molded & Thermoformed Parts ▪ Air Ducting Joint ▪ Trim Strips ▪ Insulation Blankets & Covers <p>Note: Elastomeric Materials fall under Type IV</p>	Vertical (12-sec)
Type III	<ul style="list-style-type: none"> ▪ Seat Cushions 	Vertical (12-sec) Oil Burner for Seat Cushion
Type IV	<ul style="list-style-type: none"> ▪ Clear Plastic Windows & Signs ▪ Parts Constructed of Elastomeric Materials (in part or in whole) ▪ Edge Lighted Instrument Assemblies ▪ Seat Belts ▪ Shoulder Harnesses ▪ Cargo & Baggage Tie-downs 	Horizontal (2.5 in/min)
Type V	All other items not described in Types I thru IV except electrical wire & cable insulation and small parts (e.g. knobs, handles, clips) and which would not contribute significantly to the propagation of a fire.	Horizontal (4.0 in/min)
Type VI	Cargo or Baggage Compartment Ceiling and Sidewall Liner Panels (Class C Compartments ³)	Oil Burner for Cargo Liner ¹
Type VII	Cargo or Baggage Compartment Liners & Floor Panels (Class B thru E Compartments ³)	Vertical (12-sec) 45-Degree
Type VIII	Insulation on Electrical Wire & Cable	60-Degree

NOTES:

¹Aeroblaze does not currently offer this test.

²This item does not undergo Smoke Density or Heat Release testing.

³Classes defined in 14 CFR 25.857.

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APPENDIX A

Part 23 Fire Testing

Test	Regulation (14 CFR 23)	Materials	Criteria (14 CFR 23)	Procedure (14 CFR 23, Appendix F)	Fire Test Handbook
Vertical (60-sec)	23.853	Type I	23.853 (d)(3)(i), (f)	Part I (d)	Chapter 1
Vertical (12-sec)	23.853	Type II, III, VII	23.853 (d)(3)(ii)	Part I (d)	Chapter 1
Horizontal (2.5 inch/min)	23.853	Type IV	23.853 (d)(3)(iv)	Part I (e)	Chapter 3
Horizontal (4.0 inch/min)	23.853	Type V	23.853 (d)(3)(v)	Part I (e)	Chapter 3
45-Degree	23.855	Type VII	23.855 (c)(2)	Part I (f)	Chapter 2
60-Degree	23.1359	Type VIII	23.1359 (c)	Part I (g)	Chapter 4

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APPENDIX B

Part 25 Fire Testing

Test	Regulation (14 CFR 25)	Materials	Criteria (14 CFR 25, Appendix F)	Procedure (14 CFR 25, Appendix F)	Fire Test Handbook
Vertical (60-sec)	25.853 & 25.855	Type I	Part I (a)(1)(i)	Part I (b)(4)	Chapter 1
Vertical (12-sec)	25.853 & 25.855	Type II, III, VII	Part I (a)(1)(ii)	Part I (b)(4)	Chapter 1
Horizontal (2.5 inch/min)	25.853	Type IV	Part I (a)(1)(iv)	Part I (b)(5)	Chapter 3
Horizontal (4.0 inch/min)	25.853	Type V	Part I (a)(1)(v)	Part I (b)(5)	Chapter 3
45-Degree	25.855	Type VII	Part I (a)(2)(ii), (iii)	Part I (b)(6)	Chapter 2
60-Degree	25.869	Type VIII	Part I (a)(3)	Part I (b)(7)	Chapter 4
Oil Burn (Seat Cushion)	25.853	Type III	Part II (a)	Part II (g)	Chapter 7

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APPENDIX C

Part 27 and 29 Fire Testing

Part 27

Part 27 does not specifically mention types of tests to be performed, although it does have fire resistance requirements for some materials. Advisory Circular AC 27-2A allows procedures of AC 23-2 to be used to meet Part 27 standards. The FAA also encourages and recommends use of self-extinguishing interior materials that comply with Part 29.

Part 29

Test	Regulation (14 CFR 29)	Materials	Criteria (14 CFR 29)	Procedure (14 CFR 25, Appendix F)	Fire Test Handbook
Vertical (60-sec)	29.853	Type I	29.853 (a)(1)	Part I (b)(4)	Chapter 1
Vertical (12-sec)	29.853	Type II, III, VII	29.853 (a)(2)	Part I (b)(4)	Chapter 1
Horizontal (2.5 inch/min)	29.853	Type IV	29.853 (a)(3)	Part I (b)(5)	Chapter 3
Horizontal (4.0 inch/min)	29.853	Type V	29.853 (a)(4)	Part I (b)(5)	Chapter 3
60-Degree	29.1359	Type VIII	14 CFR 25, Appendix F, Part I (a)(3)	Part I (b)(7)	Chapter 4
Oil Burn (Seat Cushion)	29.853	Type III	14 CFR 25, Appendix F, Part II (a)	Part II (g)	Chapter 7

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